THE

# NORTH AMERICAN

# Medical and Surgical Journal.

APRIL 1830.

## Reviews.

ARTICLE I.—*Delle Malattie del Cuore, loro Cagione, Specie, Segni, e Cura: di* ANTONIO GIUSEPPE TESTA. *Edizione Seconda. Tom.* 3. *Firenze*, 1823.

*Of the Diseases of the Heart, their Causes, Varieties, Symptoms and Cure. By* A. G. TESTA, M.D. *Professor, &c. Florence*, 1823.

To the mechanical philosopher it must be a subject of wonder, that the heart, constructed on the principles of an hydraulic machine, should be able for a long series of years to continue uninterruptedly in motion, without serious damage to its *works*. Even the physiologist, accustomed as he is to a survey of the vital powers of the organs, and their reaction under the impressions of physical agents, would hardly, *a priori*, expect that the heart should escape the shocks daily and hourly given to it, in its hurried contractions, caused by every change of mental emotion, or accelerated muscular movements; added to the periodical stimulations which it receives from the calls of appetite, and their subsequent gratification. There is not a sense or sentient surface of the ani-

mal economy, but what, if much excited, will call the heart into responsive sympathy; not a faculty of the mind that does not, when in a state of tension, act powerfully on this organ, either by diminishing, disturbing, or accelerating its functions. Why, then, it will be asked, does it not suffer, as both mechanics and physiology would lead us to suppose? Later knowledge, obtained by more assiduously conducted observations, enables us to reply, not in explanation of a supposed wonder, but by assuming the fact doubted, and saying frankly, that this organ does suffer, more and longer than was at one time generally supposed, or is by many yet credited. Ignorance of anatomy, and still greater and more enduring ignorance of physiology, were the causes of the so long prevalent errors on this subject. The succession of explanations of the causes of death have only recently reached as far as altered structure of an organ. The fates, the anger of a vengeful deity, some atmospherical poison, an inward taint or principle of corruption, have each in turn played a part in the prolific commentaries on the causes and fatal termination of diseases. So long as men thus wandered in the mists of error, how could it be expected that they should be illuminated in regard to the real condition of an organ, its alterations and sympathetic disturbances? This season of doubt and uncertainty has now happily passed away, never, as we would fain hope, to return again. The works of Senac, Burns, Corvisart, Testa, Bertin, and Laennec, on the diseases and organic affections of the heart, are before us; and with such guides, we must indeed shut our eyes wilfully and obstinately, if we again wander from the true course.

A glance at the physiological relations between the heart and other important organs and apparatus, will satisfy us that they who, like Corvisart, enlarged so much on its diseases, have not done so in a spirit of exaggeration, or without a due consideration of the case. The parts with which the heart is more immediately connected are the vascular system, the brain, and the splanchnic viscera, viz. the lungs and digestive apparatus, and its glandular appendages. As the centre of the first, it is liable to be affected by whatever drives the blood with unusual impetus towards it, or produces any irregularity or engorgement in the course of this fluid through the larger and internal viscera. With these latter it is associated by means of the sympathetic nerve; and with the brain by the par vagum, which is a bond of sympathy uniting it, and the lungs and stomach. As an organ performing a very important function, it requires for its supply red or arterial blood, and is in consequence

in strict dependence on respiration. Of a complex structure, muscular in its substance, and sero-fibrous in its envelope, the heart is moreover liable to be affected by the transfer of irritation from other similar systems in the animal economy, or by what we commonly call metastasis, as of rheumatism and membranous inflammation of other parts.

The work of TESTA, to the consideration of which we propose devoting this article, is regarded by his countrymen as one of high and deserved authority, and is now generally received as classical. The edition before us is a posthumous one—the distinguished author having been cut off prematurely from a profession which he gave such signal proof of his ability to adorn. In presenting the different topics connected with the subject, we shall pursue pretty closely the arrangement adopted in the work itself; indicating, as we go along, the authorities on which we may sometimes draw for illustration and collateral proof. It is in this latter case that the elaborate compilation of SCHINA in his Archivio, will be chiefly useful to us.

The first book of TESTA is devoted to the study of the causes. Passing over the first chapter, with the promise of speedily recurring to it, we find the second to be taken up with the question of *hereditary predisposition*, the investigation of which ought to have precedence of all others; since both prophylactic and curative measures are brought into more efficient action by a competent knowledge of its extent and power. We hardly required the authorities adduced by the author, to assure us of children inheriting the countenances, carriage and disposition of their parents; nor is our conviction increased by the story which he tells from Aristotle, of the men of a tribe in Libya, who, having their wives in common, selected the children which belonged to them, from the resemblances which they bore to their fathers. What he says of the scrofulous, scorbutic, cancerous, arthritic, calculous, herpetic, maniacal, epileptical, paralytic, idiotic, apoplectic, anginose, asthmatic, pulmonic, hepatic and dropsical inheritance, will, we believe, be generally admitted. The annals of pathological anatomy abound with examples of the transmitted predisposition to organic alterations of the heart. LANCISI tells, in the forty-seventh proposition of his work on aneurisms, of a noble family, of which four successive generations were affected with aneurism of the heart. The last individual was also epileptic, and died young. A father and two sons,

margraves of Baden, suffered, as we learn from FRANK, under the same kind of ossifications and alterations in the great vessels, although there was not the least uniformity in their mode of living. Albertini speaks of a very old woman who had lost five brothers in the flower of their age, of diseases of the heart, and who herself struggled for more than thirty years against a similar affection. We find, then, in this inheritance and family community of disease, reasons of a very imperative nature, distinct from moral and social considerations, why laws have been so generally promulgated, from Moses down to the present time, against persons within certain limits of consanguinity intermarrying. Love may be blind to laws which are firmly based on nature; and while condemning, we must often pity its wanderings: but no such toleration ought to be extended to the union between members of the same family, brought about by heartless avarice or ambition, for the retention of wealth or perpetuating a title; and the consequences of which are often the transmission into another generation of infirmities in an aggravated shape, which a more natural and honourable course might have entirely prevented, or at the least greatly mitigated. "I am also fully convinced," says CORVISART, "that were not a crossing of temperaments and constitutions continually happening; did not the energy of the one correct the feebleness of the other; did not the vigour and preponderance of the one stifle, if I may be allowed the expression, the germs of weakness and disease which the other must introduce, there would be incessantly before us generations, for ages, consumptive, asthmatic, gouty, &c. &c. as there would be also individuals sound, vigorous, and enjoying perfect health." In another place he says—"To acknowledge and declare these truths does not injure the favourable opinion which is formed of the [medical] art: on the contrary, it is making a good use of one's information to employ it in appreciating the results of the organization; but art cannot go beyond the bounds prescribed by nature: it is therefore to assist, but not to limit and restrict art, that I assert it cannot cure every thing."

In the two following chapters of the work of TESTA, the author examines into the influence *of rickets*, and *mal-formation of the thorax* in the production of diseases of the heart. There is not, he is convinced from numerous observations, any congenital disorder which so commonly predisposes the human body to organic alterations of this organ as rickets. By this last term he does not mean,

always, that deformity of the joints and curvature of the spine which is seen at first glance; but a derangement in these parts, often difficult to be detected without very minute examination. The immediate effect of spinal curvature is, to diminish the capacity of the thorax, and prevent the free action of the heart and great vessels. The author takes this occasion to criticise GLISSON for asserting that he was the first to notice and describe rickets, when in fact the disease was known in ancient times, and its symptoms stated with sufficient distinctness. Among the most marked organic alterations in rickety subjects, is enlargement of the liver, which by Booz and others has been introduced as an explanation of the projection of the ribs of the right side, and the obliquity given to the thorax. These deformities are, however, at times seen without any corresponding hepatic tumefaction. Farther on, the author explains himself more fully on the connexion between diseased heart and rickets. He regards the congenital malformation of the heart and great vessels as the immediate cause of this last named morbid growth of the osseous and other systems. Imperfect minor or pulmonary circulation is attended by deficient aeration of the blood, feebleness of the arterial, and predominance or congestion of the venous system. From this latter results the morbid enlargement of the liver, and occasionally the spleen, increased of course by a feebleness or imperfection of the right side of the heart. This increase of bulk in the sub-diaphragmatic viscera becomes an additional cause of impeded pulmonary circulation, owing to the diaphragm not being allowed to descend, and give, during expiration, the necessary expansion to the thorax. The great size of the head, often seen in rickety subjects, is, he thinks, to be explained by the impediment presented to the free return of the blood of the superior cava into the right auricle and ventricle. In support of his theory, he adduces the good effects obtained by cold bathing in rickety subjects, several of whom he asserts to have cured by this means, practised in the early period of their lives,—as between the first and fourth year.

The hereditary predisposition to diseases of the heart, and the congenital disorder most favourable to their development having been noticed, we now recur, agreeably to our promise, to the first chapter of the causes. These, according to the author, are the *powerful and irregular passions*. Physiologically speaking, they are the strong and abnormal functions of the brain unduly swaying

and perverting the contractions of the heart. Here we find ourselves at once engaged in the question, as to the extent of the nervous chain by which the two organs are connected. Some have considered it too slight to explain their functional sympathy, alleging that the nerves of the heart are too inconsiderable in size and number to allow of our putting it on any other footing, in its relations with the brain, than that of purely organic life. Waving for the present the experimental proofs, obtained in vivisections, of the influence of the brain, or at least certain portions of it, on the heart, as well as the personal conviction of every individual, in the violent throbbings produced by any strong mental excitation or surprize, we may appeal directly to anatomy to enlighten us on this subject. SCHINA quotes SCARPA to show that the nerves of the heart, though small in their filaments, are very numerous, and of a gelatinous character and diaphanous, like the nervous expansions in the senses and other organs, on which we know sensation and function to be chiefly performed. If we compare, on the same authority, the extent of pure nervous supply to the heart with that to the voluntary muscles, in reference to their masses, we should say that the cardiac nerves are much more numerous in proportion than the voluntary ones, which, though large in their trunks and chief branches, are covered with a thick sheath of limited vitality, not at all contributing to their special function. The direct influence exercised by the nerves of the heart is shown in the contraction of the muscular fibres of this organ, when an irritant or the galvanic and electric fluids are applied to it. A reverse effect, viz. loss of contractility, follows the application to the nerves of sedative poisons. In its common physiological state, the heart is in the domain of organic or nutritive life, and in its movements independent of volition; but yet there are not wanting well attested examples of persons who could at pleasure suspend both their respiratory and circulatory functions, their chest ceasing to expand, and their heart to beat.

Whatever value may be attached to these views, the facts are not the less unquestionable, of the potential operation of the mind on the heart. This may take place either directly on the organ, or indirectly through the impediment caused to free respiration. More usually, the two functions, circulatory and respiratory, suffer conjointly, and in their abnormal states aggravate each other's diseases. Who among us has not felt his heart pained (we speak now literally)

under various emotions—especially of suspense, vexation, disappointment, anger. Add to these the cravings of avarice and ambition, the expansive power of joy and love, the fierceness of hate and revenge, and the chilling apathy of sadness and despair, and we cannot wonder that the times in which these passions are most strongly wrought up, and brought into conflicting display—the seasons of revolution and civil strife, are those most prolific of diseases of the heart. Corvisart attests the truth of this for revolutionary France; and Testa speaks in equally decided terms for disturbed, unhappy Italy.

The sufferings of the heart from these causes do not consist in merely undue excitation or retardation of its contractions. There is at such times a want of consensus between the movements of the respiratory apparatus and the cavities of the heart; and in these latter there is a discordance between the contraction of the auricles and ventricles, and between these last and the capillary system. Were there uniformity either of distention or contraction in the circulatory apparatus, we should apprehend less danger than where the ventricle, for example, is in a state of violent constriction, unable to propel its contents, and the valves closed; or where the ventricles force out with violence the blood, and yet the capillaries are seized as it were with spasm, or are in a collapse; or, finally, where the auricles are largely distended with blood, but the ventricular valves are closed against its entrance, as in the agony of the depressing passions. On this account a state of suspense, alternations of hope and fear, violent joy, succeeded by sadness and despondency, are more prone to produce organic alterations of the heart than the simpler passions, whether of the exciting or depressing kind. The danger is greatly increased if, while unable or unwilling to control the painful emotion, the individual is under the necessity of preventing its outward display, and of masking his real feelings by a show of tranquillity. Forbidden to give free scope to the gestures and hurried respiration, by which the accumulation of blood in the heart and great vessels would in degree be prevented, he suffers from distention of the right ventricle in a more especial manner, in consequence of its being unable, during the impeded respiration, to expel its contents into the pulmonary artery, and thence into the lungs generally. The left ventricle is at the same time oppressed, but from a different cause: it does not receive from the lungs, that is from the pulmonary veins, blood in sufficient quantity,

or of a suitable quality; it labours violently, but its expulsive power is exhausted in useless efforts, and the brain not receiving its due supply, syncope results. The person falls down senseless—sometimes never to rise again. These are among the effects of smothered passion or anger, and would seem to be a punishment for hypocrisy; since it is not so much the concealment of feeling that is enjoined on us as a moral duty, as the checking it while yet in its nascent state, and determinately preventing its formation.

This brief sketch of the effects of passion must supply the place, in our reader's eyes, of the long and elaborate chapter in the work of SCHINA, in which near seventy pages are taken up with a disquisition on self-love, beginning with a translation of part of Pope's Essay on Man.

Participating in the violence done to the heart, through the medium of the brain and nerves, in the commotions of strong passion, are the digestive canal and bronchial tubes, which are sometimes thrown into a state of complete inertia. The voice is lost, hence the well known words *vox faucibus hæsit*, respiration suspended, and the individual is threatened with immediate suffocation, either by paralysis of the heart or by apoplexy. Excessive joy is more apt to induce this alarming state of things than despondency and fear; as in the classical examples of the Lacedemonian who died in the arms of his son, a victor at the Olympic games; Sophocles expiring at the moment when his tragedy was adjudged superior to all the others offered; the two Roman mothers, who fell exhausted at the unexpected return of their sons, whom they had supposed to be slain in the fatal field of Cannæ. To the same purpose is the case related by Rivierus, of a young woman who expired at the very moment of her signing the contract of marriage with a man whom she tenderly loved.

*Diseases of prior origin in the thoracic cavity* are specified by TESTA as causes of organic alterations of the heart. Whatever impedes or destroys the perfect expansibility of the lungs, such as abscesses, empyema, vomicæ, effusions and new formations, will contribute to this effect. Among these morbid states he lays some stress on chronic bronchitis in old persons, in whom the skin is in such an atonic state as to leave the inner mucous surface to perform the entire office of transpiration. Continued irritation of the bronchial cavities, when it does not find relief in a copious expectoration of mucus, is apt to induce engorgement of the lungs, or what

is called pulmonary apoplexy and enlargement of the heart, together with the formation of osseous matter, and manifest evidences of inflammation of its membranes: occasionally the aorta participates in this dilatation. Sudden death, occurring in children and younger subjects, of a rickety habit, who have laboured under spasmodic cough and dyspnœa, is attributed by the author to the same kind of organic disease of the heart as that just stated. We cannot follow him in the farther development, which he gives in this chapter, to the subject of curvature of the spine, and its accompanying morbid alterations. Nor do we deem it necessary to do more than allude to the cause of diseases of the heart, which he treats of in the next chapter, under the head of *peculiar distribution of the vena azygos.* The pathological explanations to which this furnishes him with a text, are not very closely connected with his subject, nor very satisfactory in themselves; as when he attributes the relief afforded in certain cases of pleurisy, by the discharge of turbid and bloody urine, to the connexion between the azygos and the emulgent vessels. He afterwards, however, explains himself more fully, when he supposes this vein to be a vessel in reserve for the reception and partial retention of blood, which could not pass without great difficulty through the cava; and by this means it may serve to protect in a degree the heart and liver from morbid distention, by performing the part of a diverticulum.

The author treats, in the next chapter, of the *prior diseases of the contents of the abdominal cavity.* The frequency of diseases of the thorax from this cause is, as he justly remarks, one of the most generally received axioms in medicine; and of the important part played by the alimentary canal in the production of these morbid phenomena, there can be little doubt, whether we range ourselves under the banner of Broussais, or claim the privilege of more ancient and venerable company with the priests of Egypt, who were in the practice of washing out the stomach of the body which they embalmed, and, while exposing it to the sun, of beating it, amid a thousand imprecations, as the first and main cause of death.

Chronic irritation or inflammation of the gastro-intestinal surface, obscurely but regularly transmitted to the heart, as in hypochondriasis, causes finally organic alterations of this latter. Or, where the irritation falls short of this effect, it will give rise to painful and alarming palpitations, alike aggravated by vinous stimulation and much sanguineous depletion. A proper knowledge of hygeine,

based on physiology, can alone guide us to a correct practice in this case.

Distention of the large intestine, by flatus or feces, is not unfrequently accompanied by great difficulty of breathing and violent palpitation of the heart, to such an extent as to induce a belief of the organ being permanently affected. Testa relates cases of this nature, which were entirely cured by obtaining copious discharges from the lower bowels. He gives an account of a man who seemed to be in imminent peril of his life, from violent palpitations of the heart, and great pain in the head and stomach. One night, between sleeping and waking, while groping for an anodyne potion which his physician had prescribed to him, his hand lighted by mistake on a cosmetic mixture, which contained a no small dose of corrosive sublimate; of this latter he took largely: violent vomiting and purging supervened; and his life was for some days despaired of. But he finally recovered, and remained exempt from all disorders of the heart.

Great pains ought obviously to be taken to determine accurately the real condition of the intestinal canal; for if, in place of accumulated feces or flatus, there be a tendency to strong irritative action of the mucous coat, verging to inflammation, active purging will, we may be well assured, only aggravate the condition of the heart. The above case of cure, brought about by the accidental ingestion of corrosive sublimate, would form quite a sufficient reason in the eyes of many a charlatan for his seizing on this poison, and proclaiming it to be a true panacea, especially useful for the complaint in question. Slow credence in these boasts might be made to give place to more pliable faith, by some of the more perseveringly impudent individuals of this tribe obtaining certificates in their favour from medical men; whose obliging optics on such occasions sometimes allow them to discover, for ignorant pretenders, the successful cures to which they are often blind in the practice of their regular brotherhood.

Enlargement of the abdominal viscera, whether physiological, as of the uterus in pregnancy, or pathological, as of the liver and spleen, are not unfrequently attended by excessive palpitations and irregular contractions of the heart. A knowledge of the vascular connexion between this organ and the liver, and their contiguity to each other, would prepare us for believing, independently of more direct evidence, that they would reciprocally affect each other. Irregular

and intermittent pulse, feeling of oppression about the heart, and violent palpitations, are, we know, symptoms common enough in disease of the liver. So, on the other hand, we are fully aware of the enormous distention of this latter in carditis. Nearly the same remarks, in a more restricted sense, are applicable to enlargements of the spleen, and even pancreas.

Some interesting observations are made by the author, on the aneurismatic and hæmorrhagic tendency, as connected with, and predisposing to, diseases of the heart. He very properly points out a common error, which supposes that a dilated artery is merely a local disease, whereas, it is an evidence of a morbid condition of the arterial system in general. He admits that this excessive action of the arteries may be consequent on dilatation of the heart: but he thinks also, that the same predisposition to aneurismatic distention is often common to both. Of the same character he conceives to be the hæmorrhagic habit and disposition to violent inflammatory affections. Inflammations of the head, throat and chest, are, we know, at times promptly relieved by epistaxis; and to how many diseases is not a uterine or hæmorrhoidal flux a means of relief. We may even go farther, and say that hæmoptysis and hæmatemesis are violent remedies to a phlegmasia of the viscera of the chest and abdomen. Let there be a sudden interruption to any of these discharges, after they have become frequent and periodical, without proper steps having been taken to abate the phlogosis from which they originated, and we shall find them succeeded by morbid dilatation of the heart and great vessels. This exhibition, in one picture, and in a connected series, of phlogistic, hæmorrhagic and aneurismatic diseases, as acknowledging one common predisposition, is, we think, most conducive to sound therapeutical treatment, not less than to timely prevention. The following case is given from Frank, as illustrative of the general morbid condition of the heart and blood vessels. A man, as detestable for the enormity of his crime as pitiable for the deep remorse which he felt immediately after its commission, was seized, soon afterwards, with a spasm of the heart, followed by a strong vibration of the whole arterial system, and the greatest violence and frequency of pulsation in all parts of it. This state was speedily changed into a weak, intermittent and vermicular arterial action, which ended in sudden death. On opening the body, all the arteries and veins were found red and inflamed; there was copious serous effusion in the thorax, and evidences of

inflammation of all its membranes and of the internal surface of the pericardium ; the whole heart was dilated and aneurismatic.

Contrasted with this is the case related by MORGAGNI of a shoemaker, a man addicted to the use of wine and distilled liquors. In him there was a pulsation evident to the sight, from the region of the heart to the umbilicus, so strong, says MORGAGNI, "*ut majorem sensisse aut vidisse vix meminerim ;*" and the patient felt it to the very ends of his fingers and toes. The beatings of the carotid, temporal, and radial arteries were excessive. Towards the last, the respiration was short, the feet were swelled, and syncope at times came on. In this state, the patient, having risen out of bed, to go to the close stool, was all of a sudden seized with the greatest difficulty of breathing, and died immediately, like the greater number of those whose heart is greatly affected. The attending physician believed it in this case to be aneurismatic. But "*judicium difficile*," with life vanished nearly all appearances of diseased heart and arteries. MORGAGNI could just discover something hard and resembling cartilage in one of the tricuspid valves : but he saw no morbid dilatation of the ventricles or auricles, or of the vessels of the thorax or abdomen.

In attempting an explanation of the morbid activity of the heart and arteries in this case, TESTA descants on the unequal power, so often evinced in hæmorrhagic and aneurismatic habits, between the large vessels and the capillaries. The first are often preternaturally distended, and pulsate violently, while the latter are feeble, if not torpid. Now, in this condition of things, in which hæmorrhage or aneurism is threatened, though we may prevent imminent danger by general bleeding, we do not remove or cure the diseased habit : nay, we sometimes increase it by still farther weakening the smaller vessels, and increasing the disproportionate strength between them on one side, and the larger ones and the heart on the other. The distention and pulsatile movement of the great vessels are, the author thinks, occasionally increased by elastic fluids introduced in respiration, and struggling for escape, which in the regular course ought to be by the capillaries and secretors. In hæmorrhagic discharges, the air is seen mixed with the blood ; at other times it escapes into the cavity of the intestinal canal, where it produces great distress until it is discharged outwardly. When, adds the author, we see the removal brought about by nature, of a hæmorrhagic or plethoric fulness, without any discharge of blood or inflammatory pro-

cess, we must needs think that the curative indications are not so much to diminish the quantity of the circulating blood and other fluids, as to restore the lost proportion between the trunks and larger branches of the vessels, and the capillaries. Acting on this view, moderate or even gymnastic exercises, which call into action the whole capillary system, free dilution, which encourages the secretions, the warm bath to give expansion to the cutaneous vessels, and occasionally irritation of portions of the skin, by exciting artificial eruptions, will often cure violent palpitations of the heart and morbid pulsations of the great arteries, which would only have been aggravated by bleeding. Stimulation of the digestive tube is of still more doubtful efficacy than sanguineous depletion. If it pass ever so little the point at which the capillaries are moderately excited, so as to throw them into a sthenic state, it retards in place of accelerating the various secretions, while it urges on to renewed violence of action the heart and great vessels.

The heroic school, who think that a disease is always to be taken by storm, and engorgements removed by absolute missiles, which are to force secretions, break down obstructions, &c. will hardly join in this opinion of the simplicity of means by which the most alarming symptoms are often carried off. We would direct the attention of such to a familiar and striking example of the correctness of the views of the author, as found in a paroxysm of intermittent fever. During the chill or state of temporary paralysis of the whole capillary system, we know how violently the heart and the vessels of the precordia labour, and how completely in the beginning of the hot stage we have the hæmorrhagic or aneurismatic state simulated, we might say, in regard to the first, realized, since epistaxis on occasions actually comes on. Now what is to relieve this, to a person who witnesses it for the first time, most alarming condition of the whole circulatory system? Simply, restored balance between the capillaries and the great vessels, so that sweat shall break out, and urine and some other secretions be freely made. The pulse, which was before full, bounding, resisting, in fact almost aneurismatic, is now soft and equable; and the respiration, from being short and hurried, has become slow and full. It frequently happens that nature alone is competent to bring about this result: but if art intervene, her efforts ought generally to be of a simple kind, viz. by fluids, taken into the stomach and applied to the skin, of such a temperature as moderately to stimu-

late the enfeebled and torpid capillaries at one time or part, and to reduce their inordinate action on another. A membranous irritation of very limited extent, by acting sympathetically on the capillaries of the remaining portion, will often suffice to diminish the morbid action of the heart and arteries. We have frequently found in hepatic affections, in which the heart sympathized strongly, that the full hard pulse, unsubdued by repeated bleedings, would become soft and reduced soon after the application of a blister, or a tartar emetic plaster to the skin.

In the following chapter "*On the varicose or passive hæmorrhagic habit*," the author attempts to explain the pathology of the ancient writers respecting this kind of tendency and morbid state, but he has not, we think, added thereby any thing to our positive knowledge of the subject. He supposes that, in what he terms the varicose habit, the veins are increased in their capacity beyond all due proportion to the arteries, and at the same time enfeebled, owing to the original thinness of their coats and the accumulation of blood in them.

In regard to the remedial treatment of this morbid condition, he tells us very explicitly, that no means is more fallacious than venesection, the effect of which is to confirm the varicose habit. He extends the same opinion to astringents. The main object to be accomplished is, he thinks, to restore to the blood that principle of vitality in which it was deficient, and to increase its specific density, whilst diminishing its volume. For this purpose he directs the bowels to be kept free, so as to lessen thereby the local turgescence of the abdominal viscera, which is always present in this class of patients; and at the same time regular space is given for the lungs to expand: of course, respiration is freer, and a larger surface is exposed to the action of the oxygen of the atmosphere, while principles hurtful to the animal economy are also given out. Contributing to the same end will be exercise on foot or horseback, in a pure air. A sea voyage is recommended as especially useful. But, above all, the most watchful attention is to be paid to the skin, so as to accustom it to a more active and energetic functional exercise than before. By thus increasing what the author calls the arteriosity of patients suffering in this way, two benefits result:— First, the contractions of the heart are increased and the circulation rendered more vigorous by a more stimulating blood; and second, the volume of the blood, in general, is diminished by its increased

density, in the proportion that arterial is now made to predominate over nervous blood.

Though by no means prepared to give our assent to the explanations of the immediate causes of the morbid phenomena in the states of active and passive hæmorrhage, and the aneurismatic and varicose habits, as set forth by the author in the two last chapters noticed above, we deem him right in the main, when he speaks of the lost power of the capillary system, and of the necessity of restoring it by the means which he indicates.

Next in order, among the causes of diseased heart, as enumerated by Testa, is transfer or *metastatis of cutaneous eruptions*, both of an acute and chronic character. A similar transfer is observable in violent and painful contractions of the organ following rheumatism of the locomotive apparatus.

An instance is on record of thickened pericardium and ulcerated surface of the heart and dilatation of the aorta, although it was only four months before death that the individual complained of any notable difficulty of respiration or loss of general strength, about the very time at which he had succeeded in drying up a herpetic eruption of the upper lip. Knowing these facts, we are the better prepared, at times, to relieve the secondary and more alarming disease, by bringing back the first, or simulating it by cutaneous irritation produced by art. We have, however, met with a case of disease of the heart and large vessels, in which a very extensive scabeo-pustular eruption of the skin supervened without giving any relief whatever.

*Scurvy* and *syphilis* are enumerated by the author as the causes of organic affections of the heart. He considers mercury as not less liable to produce this effect than the disease for the cure of which it was once the fashion to give it so largely. He extends nearly the same remark to the stimulating vegetable diaphoretics, also lauded highly for their anti-syphilitic powers.

Among the *different trades and employments* predisposing to, or causing disease of the heart, none are so prejudicial as those in which, either by the arms being forcibly extended, or weights carried on the shoulders, the thorax is prevented from being duly expanded, and blood is accumulated beyond measure in the substance of the lungs, and, as a consequence of this, in the cavities of the heart. The Parisian hospitals always contain patients affected with this disease, who were porters carrying heavy burdens, or labourers.

Of the large number of *artisans* whose engagements expose them to inhale the volatile particles or dust from stone and metals, or from grain, many are obnoxious to diseases of the heart. Although belonging to a very different class, those persons whose pulmonary circulation is impeded or irregularly hurried in much and loud speaking, singing, or blowing on wind instruments, are liable to suffer in nearly a similar manner.

If we refer to the *ingesta*, as productive of the disorders in question, we shall see that gluttons, wine-bibbers, and tipplers of ardent spirits, are often victims in this way. Certain beverages of familiar domestic use, such as coffee and green tea, are frequent exciting causes of irregular action of the heart. On occasions, by causing great irritability of the organ, they predispose it more readily to the operation of other agencies, as of mental emotions, atmospherical extremes of heat and cold, &c.

Insufficient food will, on the other hand, be a cause among the poor and hard working classes, of diseases of the heart, often unsuspected by their medical attendants, but too truly evinced at the termination of their lives in hospitals. Defective nutriment has an indirect influence, by not furnishing the organs with their necessary stimulus and means of growth and supply. If, after this, they be tasked to their customary, or, still worse, extraordinary efforts, as in hard labour, they must suffer.

Of all the excesses which are most productive of violent palpitation, and often incurable disease of the heart, and which so readily convert predisposition into morbid excitement, none are so fearful as unlimited, we might say, *unlicensed venereal indulgences*. Independently of their directly pernicious effect, they are further injurious by throwing the system open to all the other causes of disease of this organ. The danger is, in such cases, more imminent from the circumstance of strong venereal desires being at times an associate of dilatation and hypertrophy of the heart; and that which is really a symptom of an abnormal and highly morbid condition of the animal economy is mistaken for a natural want or excitement. There are cases on record of actual rupture of the left ventricle from the venereal act.

Any violent *commotion of the body* by blows, falls, or sudden movements, is liable to produce disease of the heart.

If we pass from a consideration of the causes to that of the *effects of diseases of the heart*, we find enumerated in the work before us

hysterical and hypochondriacal distress, gastric irritation and bulimia, epilepsy, syncope, apoplexy, blindness, tedium vitæ, and a large class of painful sensations about the heart, together with disturbances in respiration. Of these latter we shall be called upon to speak more specifically, when the symptoms are passed in review.

In regard to hypochondriasis, it is well known that the sufferings of its victim are not so much from acute pain as caused by a crowd of obscure sensations, for the most part undefinable, and reaching the brain, as we have reason to believe, through the channel of the great sympathetic or ganglionic nerves. Now, reflecting that the heart, however disturbed in its functions, cannot rest, we see immediately how its irritation must be continually transmitted to the brain, obscurely indeed, owing to its limited sensibility, but not the less certainly and morbidly. Persons thus affected are, also, more susceptible than others to impressions of a moral nature, and hence, the slightest contrariety or sudden deviation from daily routine agitates them, and excites the heart to increased palpitation. This last, as a painful sensation, reacts on the brain, and produces renewed feelings of irritation and anxiety of mind. Let there be superadded to disease of the heart, and the concomitant is no unusual one, a phlogosed stomach, and the miseries of hypochondriasm evinced in alternate irascibility and despondency, oppressive fears, suspicion, jealousies, indifference to life, and yet fear of death, will be at their height.

A sensation of emptiness, and craving for food, are common effects of derangements of the heart. The patient is presumed to be, on these occasions, weak, and the palpitation is called nervous. Many physicians, on the faith of this very incorrect diagnosis, direct for these ailments the use of tonics, wine and strong nutritive food; they do not know, as justly remarked by Testa, that the irritation is in the stomach, and the disease in the heart; and, we may add, as a practical commentary, that to tranquillize the former, and moderate the latter, excitants are not admissible.

The heart, as we should *à priori* suppose, exerts a very decided influence over the brain; and although we cannot doubt that this latter may be irritated by impressions directly transmitted from the stomach, yet we shall find, in perhaps the larger number of the diseases under consideration, that cerebral irritation is the consequence of excessive action of the heart. The blood, on such occa-

sions, is carried with increased momentum to the brain, which we can readily suppose has, in its several parts, unequal powers of resistance; and hence the different train of symptoms, according as the anterior, lower, or central portions of this organ yield to the impetus of the blood, sent to them so forcibly by a morbidly excited heart. Epilepsy has been seen to accompany organic changes of the heart; and hypertrophy, or enlargement of the left ventricle, is a common accompaniment of apoplexy. Sometimes, the cerebral structure exhibits no unusual appearance after death; the disease is on these occasions called dry apoplexy, and may be presumed to have mainly consisted in an excessive distention of the vessels of the brain, producing compression and its consequences, loss of sensation and motion, followed by death. Testa contends, however, that we must look to a common cause for the dilatation of the heart, and the distention of vessels or yieldingness of the brain, ending in apoplexy: they are, he thinks, in co-relation, without being in succession as cause and effect.

The author enumerates, among the troublesome *consequences of diseased heart*, and which may also be classed among the *symptoms*, a sinking or plolapsus of the organ, and a sensation as of falling in of the ribs. He relates, after other writers, many examples of the first. The most curious of these is detailed by Martino Martinez, court physician under Philip V. of Spain. The subject was a male infant, whose heart was placed at the centre of the sternum: its only coverings were the common teguments. This child was otherwise well formed, and lived for twelve hours after birth. On dissection, the sternum was found divided in its entire length. The fissure, about three finger's breadth longitudinally and two wide, was occupied by the heart. In the thorax, and between the lungs, there was a cavity unoccupied, and which, in a natural subject, is filled by the heart. The descent of this organ below its usual location, and its pressing the diaphragm downwards, are not referrible, in the opinion of the author, so much to the unusual bulk and weight of the heart, as to the weakness and relaxation of the great vessels and membranous connexions. He gives examples of want of perceptible pulsation on the left side of the chest, and of this being felt below the xiphoid cartilage, and even on the right side, although the heart was found after death to have maintained its natural posture, and to have undergone little or no enlargement. The unusual places in which the pulsation was felt are, he thinks,

to be explained by effusions in the left side of the thorax, and especially by dropsy of the pericardium. Among the troublesome symptoms often associated with the falling or descent of the heart, or at least of that morbid state in which this latter is said to exist, dysphagia and painful sensations after eating may be enumerated.

Occasionally, we hear those afflicted with diseases of the heart complain of a sudden and painful sensation of sinking or falling in of the ribs. This is different from the feeling of emptiness from which they sometimes suffer, and which is mitigated, for the moment, by the ingestion of food and some spirituous drink. Testa, after relating the histories of two cases of this nature taken from Morgagni, endeavours to explain the sensation, by supposing a partial paralysis of the diaphragm, consequent as well on an altered state of the brain as on pressure of the cervical nerves by enlarged vessels. Symptoms of cerebral disturbance, during life, would seem to lend force to this supposition. At times, such subjects have been seized, just before the fatal stroke of apoplexy, or rupture of the vessels of the heart, either with an urgent desire to evacuate their bowels, in which act they have fallen down dead, or they have had a paralysis of the intestinal canal, with a sensation of sinking in of the sides and fainting.

In thus cursorily noticing the effects of diseases of the heart, as described by the author, in the second volume of his work, we should not be doing him justice, were we to omit introducing his opinions of the immediate and proximate cause of a large number of these maladies, a cause by which the remote ones acquire force, and the occasional ones are often rendered so fatal. He designates it by the term asymmetry, or disproportion among the organs, and especially between the parts of the sanguiferous system. This may be congenital or acquired. It is often barely a matter of complaint or uneasiness; and, except on some violent exertion of the whole of the body, or abnormal stimulation of the circulatory apparatus, neither the person himself, nor his medical friend, is aware of any danger. Subjects thus constituted are, however, exposed to a rapid and unexpected transition from the midst of tolerable health and occupation in the world's business and pleasures, to alarming malady and sudden death. Many cases, which have been recorded as apoplectic seizures, were, in truth, deaths from disease of the heart. We cannot, therefore, in the opinion of the author, duly estimate the force of the commonly assigned causes, nor the value of many of

the symptoms of the affections of this organ, unless we take into consideration the disproportionate development and density of tissue, other than what is purely physiological, between the two sides of the heart, or between the ventricle and auricle of the same side, or between the entire organ and the great or precordial vessels. Conjointly with this study ought to be that of primitive deficiencies in the structure of the lungs, the imperfect or morbid growth of the liver and spleen, and finally, the average energy of cerebral function, and an approximative knowledge of the firmness of cerebral tissue. The author, in the first two volumes of his work, has fully dilated on these very important points, and illustrated them with cases, to which we have, in the progress of our analysis, from time to time adverted. In the third volume, he proceeds to inquire into the structural changes of the heart and great vessels brought about by inflammation. Over the class of maladies of this organ caused and kept up by asymmetry, or disproportion of parts, the physician has, he thinks, but little control. We cannot give new parts, nor remove those already unduly developed in the discharge of their functions. If we are to be of service, it must be by laying down plain principles of regimen, in the most extended signification of the word, and distinctly cautioning against exposure to the admitted occasional or exciting causes of the disease.

In that other large class of organic alterations of the heart, which take place through and during the process of inflammation, there is more identity of action with phlogosis, as it occurs in other parts of the body, and more ground for hope of its removal, in the former case, by means similar to those which have obtained the sanction of experience in the second.

After some remarks on inflammation in general, the author takes up that of the aorta. He speaks of the connexion between this inflammation and diseases of the skin, and of syphilis as occasionally productive of the former. Hard cough and bronchitis are also at times symptomatic of inflamed aorta. The pulsations and pains of the back are more doubtful evidences of this state. The pulse, at the wrist, cannot be at all relied on in our diagnosis.

Inflammation of the vena cava and of the other larger veins are mentioned as causes of, or connected with, disturbed action of the heart. In this chapter, the author is more engaged in commenting on Areteus than giving his own experience.

In directing our attention more particularly to the inflammation

of the heart and its investing membranes, we shall find that this morbid condition and its consequences may be conveniently treated of as follows:—1. Pericarditis. 2. Carditis. 3. Ossification of the valves, and of the proper or coronary vessels; and polypi. 4. Aneurism, with or without hypertrophy.

In the chapter on acute inflammation of the pericardium, TESTA advances as his opinion, that the physician is not able, with any degree of certainty, to discriminate between phlogosis of the parenchymatous structure, and the membrane investing it; and hence he treats at the same time both of pericarditis and carditis. We are afraid that up to this present moment, notwithstanding the great progress made in a correcter diagnosis of the diseases of the chest, there is too much truth in his scepticism in this particular. He refers to the difficulty of determining whether the disease be, for example, pleurisy or peripneumony; or, in another case, phrenitis or cephalitis.

Among the chief symptoms of what the author calls inflamed precordia (heart and pericardium, and perhaps the trunks of the great vessels,) are excessive palpitation; irregular, highly excited and hard pulse; laborious, and at times painful respiration, peculiarly so in a recumbent posture; an obscure pain or feeling of oppression, or squeezing as some call it, about the sternum; unusual fulness and pulsation of the great arteries of the neck; short dry cough; at first occasional rigors, but, as the disease advances, usually increased temperature of the body and fondness for cool air; the face, tumid in the beginning, and flushed or of a leaden colour, exhibits, after a while, the features more marked and linear, with the eyes pretty uniformly prominent, or starting out, as it were, from their sockets, and moist and shining. The urine is red and scanty, and the bowels costive. The pericardium continuing to be still more inflamed, the patient suffers at times from syncope, and a feeling of burning heat. The pulse of the left wrist is more frequent and less regular than that of the right. There is, indeed, great variety in the beat of the radial artery in this disease. Sometimes it is small, frequent and irregular; at other times tense or soft. In the cases recorded by the author, there was conjoined with redness and thickening of the pericardium, and serous effusion, enlargement of the coronary and great vessels; in one instance, together with increased density of this membrane, he found the heart covered with fat, and the right lung of the consistence of liver.

The peculiar expression of countenance of those labouring under carditis, has been often noticed, and is promptly recognizable by any person who has once seen it. Corvisart became such a skilful physiognomist in this respect, that visiting once at a house in which there was a portrait of a friend of the family, he exclaimed, after looking at it attentively, that man died of a disease of the heart. Such, on inquiry, was discovered to be the fact. There is, generally, in patients afflicted with the malady in question, great distress and panting, on ascending any height, or after a sudden exertion of the arms; they are also much disturbed with frightful dreams, and awake in great alarm: add to these pains under the left mamma, and in the arm of the same side, and occasionally between the shoulders; dryness and heat of the fauces, and even at times angina and dysphagia. Sometimes, as we are told by Testa, the disease of the heart will be entirely masked by anginose symptoms, and the attention of the physician is in consequence directed entirely to the latter. The fact may serve to explain the sudden deaths in what was considered to be angina, without either the difficulty of breathing or of deglutition at all leading us to expect such a result. On some occasions, in which the persons complained so much of their throat during life, there was not the slightest trace of change in the fauces perceptible after death. The dysphagia will, sometimes, be not the mere effect of diseased heart, so much as the associate of inflamed stomach prevailing at the same time with this latter.

Testa enumerates, among the signs of inflamed heart and pericardium, bulimia; exhausting sweats; lymphatic turgescence and effusions seen after death; general membranous irritation, evinced in the frequency of coryza and catarrh; and effusions in the serous cavities and cellular tissues, and copious excretions from the renal and digestive organs. The diagnosis of carditic affections under the mask of catarrh is very difficult, since all the symptoms of the former may be so readily presumed to have their origin in the latter. It is mentioned, as a matter of surprise by the author, how long intervals of apparent good health may be enjoyed by the carditic who finally sinks under the disease.

In speaking of *hydrops pericardii*, he begins by asking what amount of fluid in the sac constitutes dropsy. Soemmering says, that in a natural state, only a few drops of fluid are found in this cavity. Testa himself has not seen it exceed a spoonful or two;

whilst CORVISART is not inclined to consider the secretion as morbid unless it exceed six ounces. Sometimes, in dropsy of the pericardium, the fluid is collected in numerous small sacs or hydatids, adhering either to the free portion of this membrane or to the heart.

The *diagnosis of pericardial dropsy* is usually considered evident, so that the patients themselves are sensible of their hearts floating in a fluid. But this certainty is by no means of universal or general experience. The least doubtful signs are enumerated by the author to be a sense of oppression under the sternum, more or less diffused according to the quantity of fluid; palpitations and tremors of the heart; deliquum; difficult respiration, and most so when the patient is in a supine posture or on one side; dry cough; general irritation of the vascular system, evinced in a hard and frequent pulse. To these symptoms SENAC added an undulating movement, sensible to the eyes, in the interval of the heart's pulsation. CORVISART succeeded but once in verifying this, not with the sight but by touch, in placing the fingers on the chest. TESTA assures us, that he never met with this kind of evidence of the disease revealed to either sense. But he found another diagnostic symptom, in the different points of the thorax at which the palpitation was felt, which he most plausibly attributes to the heart moving, in its irregular pulsations, from side to side, in the now enlarged pericardial sac. In place of the undulation above mentioned, he felt, on the application of the finger, an obscure tremor under the ribs, corresponding to the unequal beats of the heart, and extending to a much greater circumference than usual. Dropsical effusions in other parts are common enough in pericardial dropsy, and even if these be wanting, the face is, the author assures us, always more tumid than natural, and infiltrated. A dry and cold skin, and painful coldness of the extremities, and even of the abdomen, are not uncommon in this disease. Hence, he says, the relief afforded by warm clothing, frictions, dry cupping, and even blisters. He refers to the work of AUENBRUGGER on percussion as a means of diagnosis in this disease, and to the successful use of it by CORVISART; but he very frankly acknowledges that he never derived, himself, any advantage from the practice. While stating the numerous impediments to our obtaining a satisfactory evidence by this means, he at the same time admits the great advantages which a person will obtain by frequent trials and long experience, in forming a diagnosis, over the unlearned and inexperienced. The pulse is referred to, as a forcible and convincing

illustration of the truth of this acknowledgment. Numerous cases are given in this part of the work, both illustrative of the disease and of the difficulty of arriving at a correct diagnosis, which we regret not being able to introduce within our circumscribed limits.

A chapter is taken up with an interesting account of the tendency to and actual occurrence of the disease in question, *in females, when pregnant, and in a puerperal state.* Such subjects are, according to TESTA, prone to membranous diseases in general. He takes this occasion to advert to the absorption of effused fluids just before, and even in some cases after death, as an additional cause of discrepancy between the diagnosis formed by the physician and the appearances revealed by autopsic examination.

In the following chapter he tells us of the *effusion* of *blood* and *elastic fluids in the cavity of the pericardium.* A case is given from his own observation, in which blood was found, without any rupture of the heart or vessels, in a pericardium, converted into the appearance of a honey-comb, and largely imbedded in fat. The heart was enlarged to double its natural size, the left auricle being chiefly distended and thin, and the edges of the opening between it and the ventricle lacerated. The other side was nearly as usual; but the aperture between the ventricle and the artery was very much narrowed, and its coats of an almost osseous nature. No distinct earthy formation was seen, however, until the artery began to ramify in the lungs. It would seem that the transudation of blood from the surface of the heart, in this case, was due to the narrowing of the pulmonary artery, and the consequent impediment to the passage of the blood through it. The meninges of the brain were covered with minute red arborizations, and the substance of this organ was harder than natural. No notable change had taken place in the aorta, nor in the contents of the abdomen. The coronary vessels were dilated and flaccid. The chapter is terminated by references to cases in which air was found in the pericardium.

The next morbid alterations in the cavities of the heart, described by the author, are *polypi*, *sarcomae*, *ossifications*, *petrifactions*, *&c.* He takes a survey of the ancient opinions on the nature and cause of polypi, and of their frequency in the dead body; and inquires into the difference between those which are essential or primitive; and those others secondary or symptomatic, formed just before death. Believing, as he does, that the internal surface of the heart is, like other surfaces, liable to inflammation and the exudation of

fibrinous matter and new formations, he has no difficulty in admitting the existence of polypi during life. Imperfect hæmatosis, caused by disordered state of the lungs and heart, will, in his opinion, go far to explain these formations, which are the direct consequence of badly combined and elaborated blood. Dr HORNER (Pathological Anatomy) cites a case recorded by Dr COATES, in which the vena cava was enormously distended by a polypus, which measured five inches and a half in length, and nine-tenths of an inch in thickness, tapering gradually to both ends. One of these was firmly attached to the bottom of a cavity with smooth edges, which was probably the remains of an obliterated vein; the other adhered to the edge of the Eustachian valve. Dr H. gives other cases, from the clinic of the Parisian hospitals, clearly evincive of the existence, during life, of polypi in the heart and great vessels. In one of the subjects of this disease, a girl aged sixteen, the right auricle of the heart was found filled, in great part, with a soft gelatinous clot, having in its centre, vesicles filled with a semi-concrete fluid; and it was traversed by an infinitude of vessels injected, of a bright red or black. This polypus extended into the right ventricle, into the ascending and descending vena cava, and into the right subclavian and jugular veins, and confounded itself in a measure with their parietes, which were much dilated. The diagnosis of this variety of disease is obscure: no reliance can be had on the intermittent pulse, which was at one time thought so conclusive of its presence. The sudden deaths of which we have examples in subjects of polypi of the heart, may be explained by the occlusion of one of the orifices of the cavities of this organ, or of the great vessels, by the extremity which had hitherto floated freely about. Consequent on the impeded function of the heart, by obstructions from polypi, is disease of the brain, amounting sometimes to injection of its vessels and apoplectic seizure. TESTA is not, however, disposed to lay much stress upon this mechanical explanation. He thinks that the morbid condition of the heart from other causes, is of itself sufficient, especially if there have been cerebral predisposition, to bring about the above results.

Among the examples of bodies of new formation generated by inflammation, ossifications in the heart, and even of its muscular tissue, and of the aorta and its immediate branches may be specified. MALACARNE relates the case of a man who died suddenly from a fall, and in whom the aorta, two fingers breadth below the arch, was found completely broken across: there was not the slightest adhe-

sion of the two ends by the smallest cellular thread. Pressure, between the fingers, of any portion of the vessel, or of the subclavian and carotid arteries, would cause a crumbling and breaking almost like that of an egg shell. The most general form of conversion of the arterial coats is laminar or scaly. Sometimes it is in small follicular tumours. The author does not think, that morbid osseous deposition is so much confined to those in advanced life or old age as is generally imagined.

In the next or thirteenth chapter of the volume, we read a very graphic description of the *symptoms of osseous or petrous induration of the precordia*, and of the so called *angina pectoris*. As these are given in many practical works, we shall not transcribe them here. Many of them are common to carditis and pericarditis. Those most diagnostic are the painful sensation under the sternum, somewhat to the left side, pains of the upper extremity, and especially of the left, extending to the fingers, and passing through like an electric shock; and the return of the paroxysm at distinct intervals, and always with greater violence, even to syncope. During the interval, the individual often feels as well as ever, and thinks himself restored to entire health.

The principal organic changes, revealed by the post mortem examination of those dead of angina pectoris, are ossified spots in different parts of the heart, often in its tendonous chords, and in the valves, at the beginning of the aorta, accompanied with small excrescences on its internal surface; but still more frequently in an obstruction, and cartilaginous or osseous induration and closing of the coronary vessels. It was from this latter cause that John Hunter met his death. In some cases, the external surface of the heart and the internal of the pericardium are studded with granulations: in others the pericardial sac contained air; the blood has been found mostly very fluid and black; at one time largely accumulated in the heart, at another this viscus was almost empty. Fat collected on the pericardium and heart, was a common appearance.

We are bound, however, continues the author, to say that neither ossifications of the coronary arteries, nor of the heart itself, have been found always to give rise to angina pectoris; and on the other hand, violent paroxyms of the disease have been experienced without any of these changes being found after death. Corvisart, Senac and others, give cases corroborative of these assertions. Testa himself relates the history of a man, who after a stay of twenty-

seven days in the hospital at Bologna, on account of a blow received over the the left eyebrow, fell down dead at the very moment in which he was going out, after having obtained his discharge. An examination of the cranium showed the internal lamina to be fractured, and a copious effusion of blood between the skull and dura mater. This was deemed so conclusive an explanation of the apoplectic seizure, that, but for mere anatomical curiosity, no farther inspection would have been made. The dissector was startled, on resting his hand on the enlarged pericardium, by a sharp spicula pricking his finger. When the sac was opened, a heart of nearly double the common size was seen, and changed to almost a globular shape: the whole, except the apex, was covered with a stony crust, in some places of the thickness of the little finger, and studded with numerous sharp points. According to the testimony of the man's wife, he had never, during a life of thirty-seven years, complained of any disease or uneasiness until he fell down dead, as above described.

Another case is recorded by the author, of a countryman who had changed his place of residence, from a hilly to a low marshy district, and who, in consequence, was seized with *erratic* fever, for which and, as it was thought, a hepatic disease, he obtained an introduction into the hospital. He made no complaint of pain in the breast or disturbed respiration or syncopal fits: and only sometimes of a slight cough, pain in the head, paleness of the face and swelling of the sides, especially of the left hypochondrium. And yet, on dissection after death, the lungs were found adherent throughout to the pleura; the heart was covered externally with false membrane, the coronary arteries dilated prodigiously, the auricles much enlarged, the valves of the left ventriculo-auricular orifice for the most part ossified; and it was difficult to understand how the blood could pass through it: the aortic orifice was narrowed and ossified internally; the caliber of the aorta and pulmonary artery was enlarged; the liver was very tumid and rose up into the thorax; as was also the spleen: the intestines were more distended than common.

Testa is still inclined to believe that, however astonishing the fact of the function of the heart going on without much or sometimes any notable disturbance, under these great organic alterations, they are to be regarded as the cause of sudden death, as in the case of the Bolognese with the petrified heart.

Some writers on this subject have laid great stress on the upward

protrusion of the diaphragm by enlarged liver and spleen, or excessively tumefied stomach and intestines, so that the heart is compressed, and as it were paralysed. But the author of the work before us very properly points out, in answer to this hypothesis, the fact of great abdominal fulness and distention, as in ascites, and even certain liver diseases, throwing the heart upwards, so that it is felt even against the clavicle, without the symptoms of angina pectoris being experienced. Besides, he continues, if the contents of the thorax were to suffer so much from this cause, ought not the lungs by their soft texture to be more implicated than the resisting heart, protected, moreover, by its pericardial sac.

In the following chapter he briefly discusses the question of fatty accumulation about the heart, or *polysarcia adiposa cordis*, being the cause of angina. He adverts to the affirmative opinion of Parry, but concludes, himself, that this deposition is as likely the effect as the cause of diseased heart.

The author proceeds in the next chapter to notice the *partial dilatations of the heart in general, and of the different fleshiness of the left and right heart.* He takes occasion to point out the necessity of the greatest nicety of observation, and detail in description, of the appearances of the organs after death, for the purposes of rendering morbid anatomy an available basis for pathology and therapeutics.

Under the general denomination of aneurism, authors class two kinds of dilatation of the heart: the first, a mere enlargement of one or more of its cavities, without any alteration of the thickness of the sides, or with some attenuation of these latter; the second, a dilatation with increased thickness of the walls of the heart. Cases are given of each of these varieties, which, as merely illustrative of a generally received fact, need not be repeated here. The necessary predisposing, if not directly exciting cause of these morbid enlargements, as well as of the ossifications above described, is, in the opinion of Testa, a process *analogous to phlogosis.* He discusses some of the reasons advanced to explain the usually increased density of the left, rather than the right side of the heart, in disease; but he does not seem to be satisfied with any of them. Thus, it has been supposed, that, if there be any impediment to the free passage of the blood at the mouth, or at the beginning of the aorta, the left ventricle will be tasked to additional effort, and will receive, in consequence of the aortal obstruction, a greater amount

of blood by the coronary or nutritive arteries; and hence increased depositions and growth or thickness. The impeded and laboured contractions of the left ventricle disable it, however, from receiving with freedom the usual supply of blood from the left auricle and pulmonary veins. Much blood is retained in consequence in the parenchyma of the lungs, which, thus full and gorged, refuse a free passage to that brought by the pulmonary artery, which again, in its turn, causes increased labour and distress of the right ventricle and auricle, parts naturally thinner than the left, and, from the engorgement of blood, now gradually distended and made still thinner. But all this plausible anatomical explanation rests on the supposition, that the left cavity is the part first diseased, whereas, we know that at times only the right suffers, and we have every reason to believe, that on occasions, both cavities are simultaneously enlarged, and the walls altered by a common morbid cause. The author is inclined to refer these alterations to a primary or inherent weakness of one portion or cavity of the heart in particular, so as to render it unfit to present the natural resistance and expulsive power to the blood thrown into it. Coinciding with dilated heart, is also very often enlarged aorta, a fact which is thought worthy of notice and remembrance. The chapter is terminated with the histories of two cases of enlargement of the entire heart, and increased thickness of its sides.

The better to prepare us for a proper scepticism of the value of the symptoms of either partial or general dilatation of the heart, the author begins the chapter, with detailing a history of a case of undoubted aneurism of the left side of this organ, and a partial caries of the rib against which it pressed; and yet this man had the enjoyment of all his functions: regular pulse, equable respiration, easy recumbence, natural and quiet sleep, good digestion, no palpitation, nor deliquum of any kind, only sometimes an approach to vertigo and feeling of fulness of the head.

Manifest pulsations of the jugular veins have been regarded as an unequivocal symptom of dilatation of the right side of the heart. But this is too deceptive a guide for us to at all rely on it. Most of the alleged cases of pulsation of the jugular have been caused by the beating of the carotid artery. Not more stress can be laid upon a full and excessively frequent pulse, as indicative of dilatation of the same side, nor on the beats of the heart itself, as symptomatic of particular kinds of deranged function.

Instances are given in the work before us of *gangrene of the extremities, and acute pain of the joints*, as associated with, or indicative of diseased heart.

The author once more adverts to the difficulty of forming a correct diagnosis of diseases of this organ, and then lays down the series of inquiries on which it ought to be finally made up.

1. In regard to the asymmetrical form of the person, rickets, limbs not proportionate to the trunk, defective or vicious formation of the thorax.

2. Hereditary predisposition to carditic maladies.

3. Depraved function of the skin; tendency to catarrhal affections.

4. Hæmorrhagic habit; sanguineous discharges.

5. Hypochondriacal affections; habitual hysterics; vapours, flatulencies; sudden disturbances of the brain, with the semblance of vertigo; syncope, and a feeling of vapours rising to the head; palpitations of various kinds, without any manifest cause.

If subjects, either completely answering to the above, or uniting some of the morbid tendencies just detailed, have suffered much from repeated and great mental disturbances, or have received blows or falls on the thorax, undergone excessive muscular exertion, or experienced some serious acute or chronic disease of the respiratory organs; if such persons, moreover, should have been infected with syphilis, the probabilities of their being troubled with diseased heart will be very great. The foundation of our belief will be strengthened, if they are attacked with sudden stitches and tremors, without known cause, œdema of the extremities, a continued feeling of weight and uneasiness under the scrobiculus cordis and beneath the sternum, with flying pains in the arms and top of the shoulders, and in the legs and feet: finally, if their countenance acquires the peculiar expression of those who are victims to diseases of the heart—paleness and puffiness, and a colour between blue and violet, especially of the lips and tip of the nose, and that configuration of forehead and look, out of the eyes, which is so often and readily seen, although difficult to be described by words.

However accurately the above mentioned characters will give, in general, the picture of a person with diseased heart, they do not, after all, enable us to prognosticate, with any degree of certainty, the duration of the malady, or the precise nature of its termination. Sometimes, after the patient has seemed to be on the very brink of

the grave, his disease has become stationary, and even his strength improved. Weeks, months, and even years pass away, not only without any additional exasperation, but with an actual comfort and comparative bodily vigour, to the confusion of the physician, who is rated for his groundless fears.

A chapter is devoted, by the author, to the subject of *smallness*, and *consumption*, or *tabes of the heart*, in which we do not meet with any thing particularly demanding notice or comment.

The one succeeding is taken up with accounts of *gangrene and rupture of the heart.* Rupture is considered by TESTA as a consequence of inflammation and ulceration of the viscus. Examples of this disorganization are adduced, together with some singular symptoms of lacerated heart. In one case of this nature, the chief symptoms were restlessness, agitation, stretching, eyes like those of a maniac, acute pains of the scapula and between the shoulders, intolerable heat of the stomach, and that most troublesome sensation of dragging and tearing, which he was unable to express, of the epigastrium, and all the anterior portion of the chest. The relief obtained by alvine discharges, led to the opinion of the disease being in the alimentary canal. The pulse was small, weak, and somewhat frequent, but regular and equable. After repeated copious discharges from the bowels, from six in the evening until four in the morning, he slept profoundly, like a man whose disease has taken a favourable turn: he afterwards rose twice, with all his wonted strength of body and clearness of mind, to gratify renewed desire for alvine evacuation. On the second occasion he complained of feeling cold in his legs, laid down again to sleep, but never awoke. The heart was found ruptured on the right ventricle, so as to admit the thumb into the lacerated opening.

A case is mentioned of a man who survived for nine days a penetrating wound into the cavity of the heart.

The volume is terminated by a chapter in which the author treats of the pulse as a symptom of diseases of the heart. Our readers will all join him, as we assuredly do ourselves, in admitting the fallacies of induction from this guide. His observation, however, that the pulse of the left wrist is a more certain index to the condition of the heart than that of the right side, is entitled to notice, since it is both the result of his own and others' experience.

We have now reached the end of the third and last volume of this excellent work, which the premature death of its learned and

zealous author prevented him from completing. The style of execution of the pathological portion is such as to embitter our regrets at the therapeutical one remaining a blank, except as occasional allusions to, and hints of the latter, were made in the former. With a full knowledge of the detached notices on the subject in the older writers, and of the more detailed accounts of his immediate predecessors and contemporaries, TESTA enjoyed the additional advantages of great personal experience, which he has rendered available and instructive to a high degree, by his faithfully observing, and impartially analysing the phenomena of the disease, and the appearances after death. The collection and translation of cases, recorded in the three volumes, would, of themselves, form a highly interesting work on the pathological anatomy of the heart, available both for the instruction of the younger, and pleasurable reference by the older members of the profession.

Had the indefatigable Italian lived for a few years longer, he would, in his customary spirit of candour and patient search after truth, have tested the merits of the French professor's improved diagnosis, by the aid of the stethoscope. We cannot ourselves well dismiss the subject of the symptoms of diseases of the heart, without allusion to the great improvements in this branch of pathology, brought about by the industry of LAENNEC; and even something like a detail of the methods of exploration adopted by him, and since corroborated by so many others, were we not in a great measure exonerated from the task by the excellent translation of his great work by Dr FORBES, and the manuals by MARTINET and COLLIN, also translated, in which, together with the short but strong testimony of Dr SCUDAMORE, our readers, both gentle and simple, may obtain all desirable information on the subject. The third edition of FORBES' translation from the last French edition, has been republished, recently, in New York and Philadelphia, in a neat style; and is offered for sale at a price which places it readily within the reach of every medical reader. If still, under some pretext or another, difficulties be started respecting this work, we cannot allow of any excuse for a medical man—student or practitioner, declining to become possessor of the Manual of Pathology, by MARTINET, translated by QUAIN, and of the Manual for the Stethoscope, by COLLIN, translated by RYLAND. These are both small and readily portable books, abounding in much valuable information, and at so

low a price, that a meal or two less in the week, would enable the most rigid economist to purchase them both. A refusal to do so is, we must needs think, an evidence of a pertinacious and culpable determination to remain in ignorance of what every day duty requires us to possess some knowledge of.

We cannot give a stronger *à priori* argument in favour of using the stethoscope, than the fact so repeatedly mentioned by TESTA, of the uncertainty of diagnosis in diseases of the heart, even when attempted by a physician of the greatest experience, observation and caution. Surely no means, however trifling in appearance or troublesome in fact, ought to be left untried, in order to substitute something like certainty, for doubt and perilous conjecture. If the use of the stethoscope be attended with difficulties at first, and sometimes lead to fallacies of opinion afterwards, why, we would ask, is it to be found more fault with in these particulars, than feeling the pulse or looking at the tongue? The fault is not, in any case, in the symptom, but in the error either of our senses or judgment; and shall we refuse to cultivate either, because we are not at once armed, Minerva like, against all deceptions and fallacies?

A few words on the phenomena furnished by the contractions of the heart, and appreciated by the ear through the stethoscope, will close our remarks for the present.

The first point of investigation is the *extent* of the heart's pulsation; that is, of the surface over which the ear can hear it. In the natural condition of the organ, and when it is examined between the cartilages of the fifth and sixth ribs, and at the lower end of the sternum, it communicates, by its motions, a sensation as if it corresponded evidently with a small point of the thoracic parietes, not larger than that occupied by the end of the stethoscope. When the pulsations of the heart become more extended, they are heard successively in the following places:—1. The whole left side of the chest, from the axilla to the stomach. 2. The right side, over the same extent. 3. The posterior part of the left side of the chest; and 4. The posterior part of the right side. This last is rare. LAENNEC thinks that, with regard to the relation between the state of the heart and the extent of its pulsation, it may be taken as a general fact, that the extent of pulsation is in the direct ratio of the thinness and weakness of the heart, and consequently, inversely as its thickness and strength. The size of the organ must also be considered as favouring the extent of pulsation, except in the case

where the augmentation depends entirely on thickening of the walls of the ventricles.

The second point of inquiry is the *impulse* or *shock* communicated to the ear by the action of the heart. The sensation of pressure or percussion, thus experienced by the ear to the stethoscope, is felt where the hand, applied to the region of the heart, does not communicate any; and, on the contrary, the impulse may appear very great to the hand in lean subjects, and particularly during flurry, when the stethoscope proves the real impulse to be small. A strong impulse is to be regarded as the chief sign of hypertrophy, and the absence of all this feeling (conjointly with the other general and local signs) as characteristic of dilatation of the heart. One of the pathognomonic signs of hypertrophy is the strong elevation of the walls of the thorax, so as to be perceptible at a considerable distance. Allowances must be made for the effect of bloodletting, diarrhœa, severe and long continued abstinence, and, in general, every thing capable of weakening the system, in rendering less marked the impulse of even a hypertrophied heart.

The third point in connexion with our diagnosis is the *sound* produced by the action of the heart. In ordinary circumstances, the stethoscope, applied between the cartilages of the fifth and sixth ribs, for the left side of the heart, and at the end of the sternum, for the right side of the organ, conveys to the ear a distinct sound, even in cases where the heart is very small and weak, and when the pulse is no longer to be perceived. This, in a healthy body, is double; and each beat of the arterial pulse corresponds to this double sound; in other words, to two sounds. One of these is clear and rapid, and somewhat resembles the sound produced by the valve of a pair of bellows; this corresponds to the systole of the auricles. The other is more dull and prolonged, coinciding with the beat of the pulse, and with the shock or impulse communicated to the walls of the chest by the motion of the heart: it indicates the contraction of the ventricles. The alteration most usually observed is an increased loudness and clearness of sound, which always denotes a thinness of the walls of the heart. This may be emitted either by the auricles or the ventricles. The place in which it is audible marks its seat, and the time determines whether it arises from the contraction of the auricles or that of the ventricles.

The fourth point for us to examine is the *rythm* or the *pulsation* of the heart.

By rythm, says LAENNEC, "I understand the order of the contractions of different parts of the heart, and their relative duration and succession, as detected by the cylinder" (stethoscope). He gives what he conceives to be the proportions best calculated for the heart executing its functions with freedom and integrity, and then the different order of sounds produced by this organ in a healthy state. The heart, including the auricles, ought to be of a size equal to the closed hand of the subject, or only a little less or greater than it. The walls of the left ventricle ought to be of a thickness somewhat more than double that of the right. The texture of the left ventricle, firmer and more compact than that of the muscles, ought to keep it from collapsing when laid open. The right ventricle ought to be a little larger than the left, with *columnae carnae* of greater size, and ought to collapse on being cut into. In a heart so proportioned, the alternate contractions of the ventricles and auricles, as examined by the cylinder, and the pulse, as examined by the finger, afford the following results: at the moment of the arterial pulse, the ear is slightly elevated by an isochronous motion of the heart, which is accompanied by a somewhat dull though distinct sound. This is the contraction of the ventricles. Immediately after, and without any interval, a noise resembling that of a valve, or a whip, or the lapping of a dog, announces the contraction of the auricles. This noise is accompanied by no motion perceptible by the ear, and is separated by no interval of repose from the duller sound and motion indicative of the contraction of the ventricles, which it seems, as it were, to interrupt audibly. The duration of this sound, and consequently the period of contraction of the auricles, is less than that of the ventricles; an incontestible fact, says LAENNEC, of which HALLER entertained doubts. Immediately after the systole of the auricle, there is a very short, yet well marked interval of repose, subsequently to which we feel the ventricles swell anew, with the dull sound and gradual progression which characterise their action; then follows the quick and sonorous contraction of the auricles, and again the renewed, but momentary quiescence of the heart. The relative duration of the contractions of the auricles and ventricles appears to be as follows: a third (at most) or a fourth is occupied by the systole of the auricles; a fourth, or a little less, by the state of quiescence, and the half, or nearly so, by the systole of the ventricles.

The reader of the last American edition, from the third English,

of LAENNEC, will find, in a note, some objections to this view of the account of the motions of the heart, by Mr TURNER, (Trans. Med. Chir. Society of Edinburgh, p. 205). This gentleman has shown the general opinion of physiologists to be, that the contraction of the auricles *immediately precedes* that of the ventricles, and that the interval of repose is after the contraction of the *ventricles*, and not after that of the auricles, as was the opinion of our author.

Dr WILLIAMS of Liverpool, in a paper published in the October number of the Edinburgh Medical and Surgical Journal, after adverting to the objections of Dr TURNER, says, "I may here however premise—1. That I consider the sensations communicated by the action of the heart to be most accurately described by M. LAENNEC. 2. That I conceive the first of the two consecutive sounds to be principally occasioned by the passage of the blood into the arteries during the systole of the ventricles. 3. That I concur in the general opinion of phisiologists, that the contraction of the auricles immediately precedes the systole of the ventricles, consequently, that the interval of repose is after the systole of the ventricles, and that the last of the two consecutive sounds accompanying the action of the heart, arises from some other cause than the contraction of the auricles, as was supposed by M. LAENNEC. 4. That I imagine the sound occasioned by the contraction of the auricles to be blended with the systole of the ventricles. 5. That I consider the second of the two consecutive sounds to be caused by the action of the valves, and for reasons which I shall presently assign, to be mainly occasioned by the action of those of the auricular orifices."

It would seem, as remarked by LAENNEC, that the heart, far from being in a state of constant action, as is usually supposed, presents alternations of action and repose, the sum of which does not differ from those of many other muscles, more especially the diaphragm and intercostals. From the proportions above stated, it follows, that in twenty-four hours the ventricles have twelve and the auricles eighteen hours of quiescence. In persons whose pulse is habitually below fifty, the repose of the ventricles is more than sixteen hours in the four and twenty.

Prolongation of the contraction of the ventricles beyond the ordinary period, as also of their repose, indicates hypertrophy of these cavities. More rapid contractions than natural, and briefer inter-

vals of repose, may coincide with quickness or even with slowness of the pulse, and are not considered indicative of any morbid alteration.

We sometimes observe several equal contractions followed by one or more, which are shorter and quicker than the rest, or by a perceptible pause constituting an intermission : this should be considered as indicative of disease, as are also contractions so frequent and irregular that it is impossible to analyse them.

Certain *anomalies in the sound of the heart and arteries* merit notice, if we would render our diagnosis complete. The first is called the *bellows sound proper*, from the circumstance of its exactly resembling the noise produced by this instrument, when used to blow the fire. In some very rare instances, indeed, the sound, more particularly in the carotids, but also in the heart, is changed into a continuous murmur, like that of the sea, or that which is produced by the application of a large shell to the ear. The bellows sound is sometimes observable in hysterical and nervous persons, and in those disposed to hæmorrhages, even though there be no alteration of the functions or structure of the heart. In other instances, however, it co-exists with affections of this organ, as ossification of the valves, and also aneurism of the aorta.

The second is the *sound of the saw or rasp*, and is exactly like that of one or other of the instruments named, when heard more or less remotely : it is accompanied by the perception of roughness, which is conveyed by the action of these instruments. It is evidence of contraction of the orifices by cartilaginous deposits or ossification of the valves. The place and time in which it is heard indicate its situation.

The third sound is the *musical* or *hissing bellows sound*, and according to Laennec, is a variety only met with in the arteries.

The *purring or whirring vibration of the heart and arteries* is compared to the thrill which attends the murmur of satisfaction by the cat when stroked by the hand. Laennec confesses that he is ignorant of the immediate cause of this phenomenon.

We conclude this article, extended beyond desirable limits, with the pleasing reflection, that, if the preceding observations on the application of the use of the stethoscope in forming a diagnosis of diseases of the heart, be taken in connexion with the review of Collin, in our last number, and of the paper of Drs Graves and Stokes, in the fifth volume of this Journal, our readers will be enabled to appreciate this instrument at something like its true value.

ARTICLE II.—*Journal of the Philadelphia College of Pharmacy. Volume I. Philadelphia*, 1830.

To those who are familiar with the state of the medical art in this country, it must be evident that the department of pharmacy has received less attention than is due to its relative importance. We can boast of numerous improvements in the practice of medicine and surgery; valuable additions have been made to the materia medica from the native products of our fields and forests; and anatomy, physiology, and pathology, if not enriched by the discovery of many important or very striking facts or principles, have been cultivated with great diligence, and are understood to the full extent of their present limits, by not a few among the more industrious members of the profession. In relation, moreover, to all these branches of our science, we derive prompt supplies from Europe. A discovery is scarcely announced in London or Paris, or any other scientific emporium of the old continent, before it is received in this country, and transmitted, by means of our numerous journals, to almost every town and village of the Union. The pharmaceutic art, on the contrary, not only receives few accessions from the ingenuity or research of our countrymen, but, as a general rule, is not even minutely and accurately understood: and the improvements which are daily made in Europe, though not altogether overlooked in our journals, are too generally or too vaguely described, to make any strong or very useful impression upon the profession at large. Perhaps, even if these improvements were detailed accurately, and at full length, the want of sufficient practical skill and knowledge, acquired by study, would render them almost nugatory as to any generally favourable effect.

The chief cause of our deficiency in this respect is evidently the want of a proper separation between the practice of pharmacy and that of medicine. Except in Philadelphia, and, to a less extent, in some other of our larger towns, the two professions are united in the same person; and the physician is generally his own apothecary. The student of medicine, finding ample occupation for his time in the acquisition of knowledge which bears more immediately upon the cure of disease, is apt to neglect the instruments by means of which he must operate; or at least contents himself with a slight acquaintance with their general properties, without attending to the

minute, tedious, and often difficult processes which are necessary to their preparation. In fact, to become a skilful apothecary, it is requisite, not only to attain a thorough knowledge of the principles of the art, but also to acquire a degree of practical dexterity, which can result only from a long apprenticeship behind the counter. Extraordinary industry must be added to extraordinary talent, and these must be favoured with more than the usual opportunities, in order to enable a young man to qualify himself thoroughly for the practice of medicine and pharmacy united. In whatever place, therefore, the two professions are confounded together, one or both will be neglected: and this lot will generally fall to pharmacy, as the branch which appears to be less immediately connected with the treatment of disease. This state of things in our own country is to be greatly regretted: for, though a set of medical doctrines is beginning to prevail among us, which would mainly restrict the apothecary to the sale of little more than barley and gum-arabic; yet the great majority of the profession continue to adhere to the use of medicines which they have been taught to value: and, if instruments are used at all, they should certainly be well prepared, and kept in perfect order.

In justice to the city of Philadelphia, we should observe, that the professions have for several years been wholly separated in this place; and, without urging any claim to superiority on the part of our physicians, we shall incur no risk of contradiction in asserting, that our apothecaries are, as a body, unrivalled in the United States. Evidence of this fact will be afforded in the progress of the review.

To be convinced of our own inferiority, is the first step towards improvement: and the only way to arrive at this conviction, is to compare our attainments with those of others. It will not, therefore, be unprofitable to devote a few pages to a very general sketch of the state of pharmacy as it exists in some of the countries of Europe. In the work before us we find all the materials for such a sketch, in an address delivered before the Philadelphia College of Pharmacy, by the president, Daniel B. Smith, and published in the fourth number of the journal.

In England the state of the pharmaceutic profession is peculiar. The apothecaries in that country have long been in the habit of practising as physicians, being called upon in trifling cases, or in the commencement of diseases, or in circumstances where regular aid, either from poverty, distance, or other causes, is not attainable, and yielding to the regularly educated practitioner when the com-

plaint assumes an alarming aspect. It is unnecessary to dilate on the evils which must arise to the patient from this anomalous mode of proceeding. One result, however, deserves particular notice. As the apothecary is allowed to charge only for the articles which he furnishes, and receives no compensation for his attendance, the temptation to prescribe an unnecessary and even injurious quantity of medicine is irresistible ; and the consequence is an enormous consumption of drugs among the English. But in a country so far advanced in civilization, and where the extent of competition forces every art into the highest state of perfection, it would be very singular if a profession, demanding such high qualifications as that of pharmacy, should not attract the exclusive attention of a certain set of men. The fact is that, in all the cities and towns of Great Britain, apothecaries, in our own sense of the term, are to be found, who confine themselves to the preparation and sale of medicines. They are distinguished from the practising apothecaries by the title of chemists or druggists.

" Within the last forty years this class of tradesmen has greatly increased, and the principal shops of the kind in London are perhaps among the best regulated in the world. In one, especially, the most celebrated in that great emporium, the system of business is so perfect as to excite admiration. The shop is situated in a narrow court, the only access to which is through an arched alley. Before any article is allowed to be sold, it is examined and approved, and, if a chemical preparation, is tested by one of the partners, and no medicine is permitted to pass out of the shop but of the finest quality. Each clerk has his particular station at the counter, and the requisites of business about him, his own money drawer and medicine bottles, scales, measures, and papers, for the utmost cleanliness of all which he is accountable. He sets down all the money he receives as it is paid in, and keeps his own cash account. No conversation above a whisper is allowed except on business.

" A minute account is kept, and an investigation made at regular periods, by one of the proprietors, into all the incidents of the shop, the errors in putting up medicines, or in the cash accounts, and of the manner in which the rules of the shop, which embrace all the minutiæ of cleanliness and method, have been observed. Such strict system and accuracy may be difficult to enforce, and may seem like an useless waste of time. But there is no such thing as too much system or accuracy in the business of the apothecary ; and the great reputation of the shop to which I allude is a proof that it is profitable as well as creditable. A thousand guineas, it is said, have been offered to the proprietors as a fee for an apprentice."

The following extracts will give an idea of the condition of pharmacy in Germany, and the neighbouring countries to the north and east.

"The apothecaries are limited in most of the towns to a certain number, so that the ownership of a licensed shop is of great value, and the strictest vigilance is used in the inspection and administration of medicines. The German apothecaries never contend with each other by underselling. They enjoy a consideration founded upon that which they pay to each other; their establishments are a fixed property, and there is neither rivalry nor collusion among them. Secure of realizing a fortune by their business, they introduce a rigorous method into all its details. Less splendid in the exteriors of their shops than the French, they have more true soli dity in the arrangements within, and their medicines are recommended by the excellence of their preparation. The German apothecaries have prevented their business from becoming purely mercantile. In the midst of wars and disorders they have profited by the discoveries and improvements of other nations, and have remodelled their dispensatories upon the most scientific principles. More copious than the English, and less prolix and complicated than the French, their pharmacy has adopted the best parts of the pharmacopœias of London and Paris, and is intermediate between these two systems. The Germans accordingly furnish apothecaries to many of the neighbouring countries. They enjoy the monopoly of the business in Prussia, and there are none but German apothecaries in Moscow and St Petersburgh.

"In the latter city an apothecary dare not make up a prescription of any practitioner whose name is not in the printed list of physicians; nor can he venture to sell a drug, however small in quantity or insignificant in quality, without a prescription regularly signed; and every thing sent from his shop must be wrapped in a sealed packet."

In Prussia the pharmaceutic code is exceedingly strict, and requires high qualifications in the apothecary. Its severity is particularly exemplified in the rigorous examination to which the candidates are subjected.

"The laws of that kingdom require that a candidate for examination must have served a regular apprenticeship of five years, or have been employed for three full years as an assistant in a licensed shop, and at the completion of either period, must have attended two full courses of lectures on botany, chemistry, natural history, pharmacy, and medical jurisprudence. The board of examiners is composed of two chemists and naturalists, and two scientific and practical apothecaries, who are paid by the government, and have had no part in the instruction of the pupil. The candidate is first

obliged to translate passages taken at random from the Prussian Pharmacopœia, to satisfy the board of his skill in the Latin language. He must then write a Latin theme on two subjects of chemistry or medical jurisprudence, the titles of which are drawn by lot from an urn. This theme must be written in eight hours, in the presence of the examiners, without the aid of books, assistants or extracts. If he pass this ordeal, two difficult subjects of pharmaceutic or analytic chemistry are given to him, upon which he is obliged to write a theme at his own dwelling, with the aid of books, in order to prove that he has received the highest scientific chemical education. He then draws by lot two chemical or pharmaceutic substances, either natural or artificial, and is allowed eight days, at the end of which time he must have made a complete analysis of them, and written down the results of his experiments. He is also obliged to analyse the contents of the purposely poisoned stomach of an animal, and to write a juridico-chemical paper thereon. Not satisfied with so close a scrutiny, which would deter any apothecary in this country from soliciting an examination, the candidate is then required to draw by lot the names of two pharmaceutic compounds of difficult preparation, which he is obliged to prepare in the presence of the committee extemporaneously. Specimens, fresh and dry, of officinal plants, ten samples of drugs, and several chemical preparations are then placed before him, which he must name at sight. He must then give accurate scientific descriptions of the plants and their uses; must describe the origin, properties, and adulteration of the drugs, and the chemical elements, mode of preparation, and usual adulterations of the chemicals, and the means of testing their purity.

"The examiners are obliged to be present through all these trials, and to keep accurate minutes of their proceedings, and of the success or failure of each attempt. If they approve of the candidate by a majority of votes, he is admitted to the public examination, at which he must answer questions in chemistry, natural history, and medical jurisprudence; after which, if he is still further approved of, he is recommended to the minister of the interior, who gives him a licence to practice his art."

But it is in France that pharmacy has attained the highest eminence. We cannot offer a more compact view of the legal condition of the profession in that country, than is presented by the following extract from the address of Mr Smith. The interest of the matter will be our best apology for its length.

"The French law regulating the sale and dispensation of medicines, establishes three schools of pharmacy—one at Paris, another at Strasburg, and a third at Montpelier. Each of these schools is obliged to open at least four courses of experimental lectures—one

on botany, one on the natural history of medicines, and the other two on practical pharmacy and chemistry.

"The pharmaceutists of those cities are compelled to enter at the school the name, age, and other circumstances of their apprentices, who are all obliged to attend the lectures. An apprenticeship of eight years is required before a person is allowed to open a shop, except he has attended three courses of lectures in one of the schools, when only an apprenticeship of six years is exacted. The length of each course is five months, and a strict scrutiny is exercised over the attendance of the pupils. A prize is annually delivered at the expiration of the course for the best essay on any of the sciences taught in the schools.

"When a pupil wishes to become a licentiate, he is required to produce the certificate of the school where he has studied, and of the pharmaceutists with whom he has served his time, as well as an attestation of his moral conduct, signed by two resident citizens and two authorized pharmaceutists. He must also produce a certified copy of the register of his birth, to prove that he has completed his twenty-fifth year. If the director and professors of the school are satisfied with these documents, they appoint a day for the first examination. The student must undergo three public examinations, the intervals between which must be at least a month. One of these is on the principles of the art; another on botany, and the natural history of the materia medica; the third examination is on the practice of pharmacy, and continues for four days. It consists of at least nine chemical or pharmaceutical processes, performed by the candidate in the presence of the examiners, to whom he must describe the materials, the operation and the results, and explain the rationale of the process. He must receive the votes of two-thirds of his examiners before obtaining his diploma.

"In those places where there is no school of pharmacy established, the examinations are conducted in the same manner by a jury composed of physicians and pharmaceutists, and no person is allowed to practice pharmacy unless licensed by a jury, or by one of the established schools. The licentiates of the schools can exercise their profession in all parts of the kingdom; those of the juries are restricted to the department in which they have been examined.

"No pharmaceutist is permitted to sell any secret medicine. At Paris, Strasburg, and Montpelier, an annual inspection of the shops and warehouses of the pharmaceutists and druggists is performed, by a board consisting of two professors in the medical school, the members of the school of pharmacy, and a commissary of the police. All deteriorated or badly prepared drugs are seized by the commissary, and the person in whose shop they are found is liable to a fine of one hundred livres, and an imprisonment not exceeding ten months. These annual visits of inspection are paid in other places by the juries who examine the candidates.

"Poisons are required to be kept in secure and separate apartments, of which the master of the shop alone keeps the key. They are to be sold to none but a known and resident person, under a penalty of three thousand francs; and all purchasers must write their names and residence, the quantity and nature of the poisonous drugs they have bought, and the purposes for which they are wanted, in a register open to the inspection of the police, under the same penalty."

Notwithstanding the excellence of most of these regulations, numerous abuses have crept in, which have attracted the notice of the society of pharmacy at Paris, and called forth a memorial from this body to the chamber of deputies. We notice this circumstance in order to present to our readers an extract which exhibits the high, and at the same time just estimate formed by the memorialists of the general character of their profession, and of the attainments and standing of many of its members.

"The knowledge" say they "which pharmacy requires, without being as extensive, is in part the same as that which is necessary to the physician. It is as various, and is sufficiently useful to entitle him who possesses it to the particular attention of government, and to general respect. The pharmaceutists enrol in their number men of distinguished learning, who belong to the most celebrated academies; skilful professors, who fill the chairs of chemistry and natural history; writers, whose works are sought for in France and abroad; respectable citizens, whose public services have been rewarded by honours, titles and decorations."

The state of the pharmaceutic art in Europe, as exhibited in the above extracts, compared with its present condition in the United States, presents a lamentable contrast to our disadvantage. The physician in most parts of the country, not only in villages or thinly settled places, where there might not be support for an apothecary, but in many of our large towns and cities, keeps, and to a certain extent prepares, the medicines he employs, the dispensing of which he is often compelled, in consequence of the burthen of his proper professional engagements, to leave to his students, whose only knowledge of the business has been acquired by the study of a few months in his office. Even where apothecaries have been established, they have frequently entered into the business with no other preparation than a short experience, obtained in the shops of others, sometimes without even this advantage. Provided with a dispensatory, and perhaps a few other elementary works on pharmacy, without any knowledge, or at best with only a smattering of chemistry, they feel

themselves competent to the performance of duties which in Europe are thought to require the previous devotion of many years to persevering study, and to the acquisition of practical skill.

This, however, is the dark side of the picture. It gives us much pleasure to be able to state that pharmacy has begun to partake of that spirit of improvement which pervades every art and profession that tends to administer to our physical comfort. In the city of Philadelphia, particularly, great changes for the better have taken place within a few years. Formerly it was the custom here, as it now is too generally throughout the country, for the physician to dispense his own medicines; and the time of the pupil was perhaps as much occupied in the manual operations of the shop, as in the study of his profession. Some of our practitioners, who now stand in the first ranks, have in their youth been familiar with the mortar and pestle, and have not hesitated to show their respect for their preceptor by preparing medicines according to his prescription, and then personally distributing them among his patients. Apothecaries' shops were at that time exceedingly rare. "Not thirty years ago, almost the only shop in Philadelphia, where the physician was sure of obtaining the latest foreign preparations, of having his medicines and prescriptions prepared under the eye of the master, and with competent pharmaceutic skill, or in which a strict system of accountability was carried through the details of the shop, was that of the late CHARLES MARSHALL." The number of apothecaries gradually increased, and physicians finding the advantage of confining their attention to the cure of diseases, gradually relinquished the practice of pharmacy, which is now an entirely distinct business. This was an important step: but there were still evils of no trivial nature to be remedied, some of which continue to prevail, and perhaps may be considered, in the present condition of our country, as beyond the hope of a perfect cure. The apothecaries regarded their occupation less in the light of a liberal profession than as a mere retail, money-making business, which differed from that of the seller of tape and bobbin by the somewhat greater profit which it afforded. No professional education was considered essential; and no professional spirit existed to excite to improvement, and to control the irregularities arising from ignorance or from the indulgence of a too great eagerness for gain. The cheapness of an article was its highest recommendation: and the market was thus glutted with inferior or adulterated drugs. Quack medicines and nostrums of

all kinds occupied as conspicuous places on the shelves as the preparations of the pharmacopœias; and an apothecary thought himself highly fortunate who could issue some new pill or mixture, and give it general currency by stamping it with a respectable name. Few pretended to a knowledge of chemistry, medical botany, or even pharmacy as a science; and still fewer were proficients in these sciences, so essential to the formation of a complete apothecary. As the laws provided no restraints, and public opinion was not sufficiently enlightened to restrict patronage to the most honest and competent, the purely commercial spirit was allowed full control over all the operations of the business. Physicians experienced the inconvenience of this state of things; but, though they individually, in many instances, endeavoured to correct it by giving such a direction to their prescriptions as they thought would insure care and skill in the preparation of the article prescribed, yet, as there was no common understanding nor concert among them, the success was very partial. We owe to the more enlightened among the apothecaries themselves, the first successful attempt to place their profession in a more elevated and honourable position.

By a union of most of the well informed, well intentioned, and respectable apothecaries and druggists of Philadelphia, an association was formed, with the double design of regulating, as far as their united efforts and influence would extend, the practice of pharmacy in the city, and of providing the means for the proper education of the young men about to enter the profession. In the year 1822 they obtained a charter, under the title of the "Philadelphia College of Pharmacy," and immediately proceeded to carry their design into effect. It was soon, however, discovered, that a total want of legal authority to control, in any way, the operations of the trade, was an insurmountable obstacle to the immediate correction of all abuses. In this direction, therefore, their efforts, though not entirely fruitless, were by no means attended with complete success: nor is it probable that their influence will have its due weight until a long experience of the utility of the institution shall have given it, in the opinion of the community, and particularly of the medical profession, a reputation which will answer the good purposes, without being obnoxious to the ill will, or liable to the abuses of power conferred by law.

In the other object, that, namely, of affording to the rising generation of apothecaries the means of an adequate professional educa-

tion, and thus providing for the future advancement of the art, the college has been more successful. We cannot too highly estimate the disinterestedness and honourable elevation of views which induced some of the most reputable and well established of the apothecaries to join heartily, even at the expense of some personal sacrifice, in a scheme, the effect of which, should it succeed, would be to raise up a body of rivals with claims upon the public patronage equal, if not superior, to their own. They saw, what men of narrow minds are not apt to see, that this disadvantage would be compensated in some measure, if not to their purse, at least to their love of honourable distinction, by the increased reputation of the body to which they belonged, and by the credit of having contributed to this result. A school of pharmacy was established by the college immediately after its charter was procured, and has continued to the present time in efficient operation. Two courses of lectures are delivered annually in the winter season—one on materia medica and pharmacy, and the other on chemistry. A library, a cabinet of specimens in materia medica, and a chemical and philosophical apparatus have been provided, to illustrate the instructions of the professors, and to facilitate the studies of the pupil. A diploma is annually conferred on those young men who have attained the age of twenty-one years, have served an apprenticeship of at least four years to the business of the apothecary, have attended two full courses of lectures in the institution, and have passed with credit through an examination conducted by the professors, in conjunction with a committee appointed by the trustees of the college. "Our diploma" says Mr Smith "is but an honorary distinction, that confers no privileges nor advantages beyond those which public opinion accords to the well instructed and intelligent. It bestows no title, for it was the design of the college to avoid any name which may hereafter acquire a peculiar meaning, and become the designation of a new class, analogous to the English apothecary. Those who have already passed their examination may be disposed to smile at the contrast between the trial to which they have been subjected and the severe ordeal of the Prussian code. It is true that we require, as yet, no proof of skill in analytic chemistry; but the questions of the examiners extend to all the branches of chemistry, pharmacy and natural history which are taught in the lectures, as well as to the more practical details of the business of an apothecary. To answer these questions with the promptness and

accuracy that have in most cases been done, implies an acquaintance with the theory and practice of our art highly creditable to the candidates, and when contrasted with the state of things but a few years past, full of promise for the future."

The following testimony is given to the favourable effects already experienced from the conjoined influence of the school of pharmacy, and of that spirit of emulation to which the establishment of the college has given rise among the apothecaries of this city.

"It is by no means so easy as it was formerly to sell an inferior or sophisticated article, and higher prices are paid for medicines than could be obtained before the college was founded. A single instance will show the force of this observation. Twenty years ago almost the only kind of cinchona that was retailed in this city was the inferior variety brought from the Spanish main, and known by the name of Carthagena bark, which was only worth from ten to twenty-five cents per pound, and would have been burned by the public officers had it been sent to Europe. At the present time no respectable apothecary would offer bark of such a quality to his customers. Similar remarks will apply to many other drugs, and to almost the whole catalogue of the chemicals. It is only recently that it has been esteemed essential to procure the mineral acids, ammonia, alcohol, and the ethers, of standard specific gravities, of strict purity, or to prepare the officinal formulæ by the officinal weights and measures. A spirit of accurate examination into the qualities of medicines, of honourable emulation to excel in the whole arrangement and ordering of our shops, has taken place of this sordid indifference, and is co-operating, with the influence of the college, to produce an entire change in the practice of pharmacy in this city."

The favourable impulse given to the art in Philadelphia has been extended to other parts of the United States. Several years since an attempt was made at Boston, we know not with what ultimate success, to institute a school of pharmacy; and it gave us pleasure recently to observe, in one of the medical journals, an account of a similar establishment which our neighbours of New York have set on foot.

But all that has been done here or elsewhere in this country should be considered but the commencement of a long series of efforts, which a glance at the state of pharmacy in Europe must convince us is necessary to elevate the art among us to the same level. In the establishment and support of the Journal of the Philadelphia College of Pharmacy, we see one measure, which, if it be continued with the spirit that characterizes the volume before us,

will contribute not a little to this end. We need hardly dwell upon the great importance of such a work, properly conducted, to the medical as well as to the pharmaceutic profession in the United States. Copious in details extracted from foreign journals, and which cannot conveniently find a place in those of our own country devoted more especially to medicine, it affords the only means by which we can keep pace with European improvements and discoveries. As its pages are also open to original communications from American pharmaceutists, it affords a receptacle for information peculiarly adapted to our own wants; and, at the same time, serves to excite a spirit of inquiry among the younger and more ambitious members of the profession, by which their own knowledge is increased, and discoveries made, or new views presented, which may prove beneficial to the community. A very brief notice of some of the original articles in the first volume of the journal will evince to our readers, that pharmaceutic talent and information, though not generally diffused, are by no means entirely wanting among us.

The first article is a paper by Mr DURAND on copaiba. It contains a number of valuable observations on this medicine, some derived from foreign sources, and confirmed by experiments of the author; others, which appear to deserve the credit of originality. We have not, for instance, seen elsewhere a notice of the fact, that the essential oil of copaiba, procured by distillation, affords one of the most effectual means for the preservation of potassium, and the kindred metals. In some specimens of potassium and sodium now before us, which have been immersed for a considerable length of time in the oil of copaiba, the metallic lustre is preserved on the exterior of the mass to a degree very unusual in the same substances preserved in naphtha.

Another paper worthy of particular notice is that of Dr STAPLES "On Opium and some of its Constituents." The mode of procuring morphia recommended by this gentleman has been already noticed in the fifth volume of our Journal, page 473–4. From some experience of his process, we have no hesitation in pronouncing it quite equal to any other which has come under our observation in the quantity of alkali which it yields, and superior to all in the simplicity of its details.

A communication from Mr SCATTERGOOD, a graduate of the Philadelphia College of Pharmacy, announces the discovery of a new

principle in oak bark, which he denominates quercia, having obtained it from six different species of quercus. Of this we propose to give an account in the quarterly summary, and therefore content ourselves with a simple notice at present.

The last article to which we shall invite the attention of our readers, is entitled "Remarks on the Preparation of Citrine Ointment," and proceeds from the pen of Mr W. R. Fisher, another graduate of the College of Pharmacy. It has been an object of much interest with the pharmaceutists of this place, to discover a mode of preparing the citrine ointment, which, without impairing its efficacy, or essentially altering its character, might enable it to preserve its unctuous consistence, which, as usually made, it is apt entirely to lose. In substituting, as the means of gaining this object, the neat's foot oil for the olive oil commonly employed, Mr Fisher has carried into operation an idea previously suggested, but not, to our knowledge, before successfully acted on, that an animal oil might not be hardened, as those from the vegetable kingdom are, by the nitrate of mercury. We give his process. "Take of mercury 1 oz., nitric acid 2 oz., fresh neat's-foot oil 9 oz., lard 3 oz. Dissolve the mercury in the acid at a low temperature; melt the lard and oil, and pour them melted into a wedgewood or glass mortar. When the mixture is beginning to grow cold, add the metallic solution, constantly stirring until the whole is thoroughly mixed." We can add our testimony to that of Mr Fisher, as to the decided superiority of this ointment over that of the pharmacopœias.

Enough has been said of the contents of the journal to show that it is worthy of patronage, as a means of diffusing pharmaceutic knowledge, and of exciting an increased spirit of improvement among the apothecaries. It is one of the steps which pharmacy has taken to ascend the eminence upon which medicine now stands; and we heartily rejoice to find that, though but lately roused from her slumbers, she is disposed to compensate for past inactivity by present and future exertion. As practitioners of medicine, we have no occasion to apprehend any injurious rivalry. The two professions, though mutually dependent, are yet entirely distinct. Each has a sphere of duties peculiar to itself, and of dimensions sufficiently ample to occupy the time of any single individual; so that encroachments on either side will produce a distraction of attention, and a waste of effort, which, in the majority of instances, must result in the injury of the offending party. When once they

become perfectly distinct, it will be their interest to remain so; and good policy requires that the physician, who may be loaded with the incumbrance of the apothecary's duties, should not only endeavour to throw them off, but lend a helping hand to those who may be disposed to assume them as an exclusive business. The field left to him will be sufficiently ample to occupy all his faculties and exertions, however gifted he may be with talents or remarkable for industry; and any loss which may result from the sacrifice of a portion of his former profits will be more than compensated by his increased success in the treatment of disease, and the consequent increase of public confidence.

We hope the time will come when apothecaries' shops will be proportionally as numerous in all our towns and cities as they are now in Philadelphia. The competition which is here stimulating the art of pharmacy into vigorous growth, will then produce the same effect throughout the United States; and nothing more will be wanting to insure it as high a degree of perfection as its nature admits, than the protecting hand of the law, which has been found so useful on the continent of Europe. Suitable legal provisions for the regulation of those branches of business which are liable to great abuses, have never been thought by enlightened men at all inconsistent with the most perfect freedom of institutions. In most of the states of this Union the medical profession is so restricted, that liberty to practice is denied to those who cannot offer satisfactory evidence of the requisite qualifications. The same necessity for restriction exists to its full extent in the practice of pharmacy; and the reasons which apply to the one are equally applicable to the other.

Our own state is lamentably deficient in this respect, as the door even to the practice of medicine is thrown widely open to every pretender; and cunning and impudence are freely admitted to prey upon the vitals of society. We cannot, however, but indulge the hope, that the knowledge of a few such cases as that which recently occurred in this city, of a poor child absolutely scalded to death by one of these irregular practitioners, will at length open the eyes of our legislators, and induce them to yield to the lives of the people that protection against fraud which it has always been thought necessary to extend to their property.

ARTICLE III.—*Traité de la Coqueluche, d'après les principes de la doctrine Physiologique. Par* H. M. J. DESRUELLES, D.M. *&c. &c. Ouvrage couronné par la Société Médico-Practique de Paris.* 1827. 8*vo. pp.* 356.

H. M. J. DESRUELLES, *Doctor's der Medicin, u. s. f. Abhandlung über den Keichhusten nach den Grundsätzen der Physiologischen Lehre verfasst. Aus dem Französischen übersetzt und mit Anmerken begleitet,* Von GERHARD VON DEM BUSCH. *Doctor der Medicin und Chirurgie, u. s. f. Bremen.* 1828. 8*vo. pp.* 316.

*A Treatise upon the Hooping Cough—agreeably to the principles of the Physiological Doctrine. By* H. M. J. DESRUELLES, M.D.

*The same translated into the German, with notes. By* G. VON DEM BUSCH, M.D.

Notwithstanding the numerous treatises upon the hooping cough, which have appeared since the disease was first described, there is scarcely a point in relation to its pathology which does not still remain a subject of dispute. The notions of the older writers are too absurd to merit for a moment our attention, and even when we refer to the opinions which have been advanced in relation to it, within a very recent period, we find them, though somewhat more ingenious and plausible than those which preceded them, to be in the highest degree vague and unsatisfactory. Few attempts have in fact been made, to determine by the aid of pathological anatomy, the organs in which the disease is seated, and the nature of the lesions upon which its phenomena depend. Hence its treatment has been purely empirical, or at best, confined to a mere attempt to alleviate its more urgent symptoms.

These circumstances induced the society of practical medicine at Paris, in 1825, to open a "concours" in relation to the following propositions:

"To describe and class the hooping cough; to determine its seat; to indicate the lesions discoverable by autopsical investigation, and to describe the proper treatment, the effects of which to be established by a series of accurate observations."

The treatise of M. DESRUELLES, now under review, was "crown-

ed" by a vote of the society, as presenting, in their opinion, the most correct solution to the questions proposed.

In this work the author has attempted to prove by facts and arguments, that the hooping cough is a bronchitis, accompanied with a cerebral irritation and congestion, and that this encephalic irritation assumes an intermittent form, and is the primary organic cause of the convulsive cough by which the disease is characterized. He proposes, therefore, to designate the disease by the term *Broncho-Cephalitis.*

The views of the author will be more fully understood from the following extract.

After showing that the hooping cough commences as a simple bronchitis, and that it is not until after it has existed for some time that the cough assumes its peculiar character, he observes, that as soon, however, as the cerebral irritation and congestion occur, and an impediment is offered to the free passage of the air into the bronchiæ, the convulsive paroxysms take place.

"The irritated brain becomes the seat of an increased amount of blood; on the one hand the lungs act upon the brain through the medium of the eighth pair of nerves, the phrenic nerves, and those branches which are distributed to the muscles of the thorax; while, on the other hand, the brain reacts upon these muscles, the glottis and diaphragm. A long, sonorous inspiration taking place, the glottis contracts spasmodically, in order to prevent the efforts of the diaphragm, the bronchial vesicles and the muscles of the thorax from expelling entirely the air which had been introduced into the lungs. By these efforts at expiration, the mucus secreted within the bronchiæ becomes detached.

"When the air inspired has nearly all escaped, or has lost its vivifying properties, there takes place a new inspiration similar to the first.

"The noise which the air makes in passing through the contracted opening of the glottis, indicates that the vocal chords are tense and approximated.

"The laborious efforts at expiration are repeated, until the mucus accumulated in the bronchiæ is thrown in the trachea, and from thence forcibly ejected through the mouth or nose, accompanied with vomiting, and occasionally with hæmorrhage."

Each time that a determination of blood to the brain occurs, the cough returns. This intermittent cerebral irritation and congestion precedes each paroxysm of cough, ceases with the latter, but soon returns, giving rise to a renewed paroxysm.

In adopting the fundamental propositions noticed above, in rela-

tion to the nature and seat of the convulsive cough by which pertussis is characterized, "we should fall into a strange contradiction," remarks M. Desrouelles, "if we did not distinguish between the complications of pertussis and the cerebral irritation which constitutes the essence of the disease. Nevertheless, if this irritation passes to the stage of inflammation, or if it becomes continued in place of intermittent, it is then to be included in that class of diseases by which the hooping cough may be complicated. But in this case the primary affection, the bronchitis, becomes secondary, it would even seem to disappear in order to give place to the inflammation of the brain, or of its meninges; diseases frightfully rapid in their progress, and which, in consequence of the fatal effects they are capable of producing, demand the exclusive attention of the practitioner."

In his preface our author terms the foregoing explanation of the phenomena of hooping cough "a new theory," which he would appear to claim as his own. He has, nevertheless, in the course of the work, referred to several preceding writers, who have entertained views in relation to the pathology of the disease, which differ but little from those advanced in the present treatise.

Thus Alphonso Leroy in his "Medicine Maternelle," published in 1803, observes, that the hooping cough should be ranked among those diseases which affect the membranes of the brain, inasmuch as its phenomena are essentially nervous, as it is epidemic, very often intermittent, and like all nervous diseases, has regular periods. It is evident, however, that this opinion of Leroy was merely speculative and unsupported by necroscopic observations, for he observes that we do not ordinarily recognize any lesion either of the lungs or brain.

Boisseau has also noticed the tendency to cerebral irritation in pertussis, but appears to view this rather as the consequence than as the cause of the disease. According to Begin, in his treatise upon therapeutics, the hooping cough, although it cannot be regarded as an affection exclusively cerebral, is nevertheless frequently accompanied or complicated with a secondary irritation of the brain. Dr Otto likewise (Nye Hygæa, 1824) considers the affection of the brain in pertussis as a concomitant rather than an essential system. Dr Webster of London, however, in his celebrated treatise on this disease, has attempted to prove that its principal seat is in the brain, and that the pulmonary affection is merely sympto-

matic of the former, or in other words, an effort of nature to relieve herself by expanding the lungs to an unusual degree, thereby allowing a greater quantity of blood to flow into them, which in the same degree diminishes the fulness and congestion within the head.

The principal credit of M. DESRUELLES will be found, therefore, to consist in his having followed up the hints which had been thrown out by others; while by a cautious comparison of the phenomena of the disease, with the lesions discovered after death, in the brain and lungs, he has been enabled to present certainly a fuller and more consistent view of its pathology than any preceding writer.

With a few exceptions, those who have treated upon the nature of hooping cough have confined their examination into the morbid appearances presented by the dead body, to the lungs and trachea, with the nerves and vessels in their immediate neighbourhood, or to the stomach and diaphragm, neglecting entirely those presented by the brain. But COITER, WARDROP, OZANAM, WEBSTER, GUIBERT and other late writers, who have paid attention to the morbid condition of the latter organ, have invariably detected more or less disease of its membranes or substance. The same may be observed in relation to the few dissections which we have ourselves made in this disease, or have witnessed in the cases which have died under the care of our medical friends.

We may remark in passing, that it is almost entirely upon the autopsical observations of the authors last named, that M. DESRUELLES has founded his views of the nature of hooping cough: but two or three dissections of his own occur in the work before us.

In a note to the German translation of M. DESRUELLES' treatise, Dr VON DEM BUSCH states, that it may be very properly questioned whether the morbid appearances which have been discovered in the brain, are not rather to be viewed as a consequence of the disease, or as the immediate cause of death, than as indicative of the character and nature of pertussis. He conceives it to be at least uncertain whether such lesions are the result of the extensive congestion produced in the brain during the violent paroxysms of coughing, or of a peculiar irritation seated in the organ itself. "To me," he adds, "the first proposition appears to be as probable as the last." Although Dr VON DEM BUSCH has not explained fully his own views of the nature of pertussis, we suspect, from one or two remarks contained in the notes appended to his translation, that he has adopted the opinion of HUFELAND, that the disease consists in an irritation

of the mucus membrane of the bronchiæ, accompanied by a diseased condition of the eighth pair of nerves.

That in every case of pertussis there exists an inflammation of the bronchiæ, extending in many instances to the lungs, and occasionally to the trachea, is rendered evident from the phenomena of the disease, and the result of numerous dissections recorded by Lettsom, Badham, Whatt, Webster, Hastings, Marcus, Bauer and others. Simple inflammation of the bronchiæ, will not, however, account for the production of the convulsive cough and respiration by which the disease is characterized; these depend evidently upon an intermittent irritation implicating the respiratory nerves. This latter is very generally admitted to be the case by the more recent observers. The point upon which they principally differ in opinion is, whether the irritation is to be referred to the brain, or depends upon a diseased condition of the nerves themselves. The former opinion, we are persuaded, with our author, is the one most consistent with the general physiology and pathology of the nervous system, and with the phenomena and morbid anatomy of the disease in question.

In proceeding to consider the causes by which the hooping cough is produced, M. Desruelles examines cursorily the question whether it is propagated, as is commonly supposed, by contagion.

"In this disease" he remarks "no matter capable of producing contagion escapes from the patient's body, unless we consider as such the glary expectoration which occurs at the termination of each paroxysm of the cough. Contagion is not, therefore, possible. The hooping cough is epidemic, but like all other diseases of this class, it is not contagious. When it attacks an entire population, it becomes more intense, not because a number of persons are labouring under it at one time, but because the causes by which it has been produced are peculiarly active. So far from this being an evidence of its contagiousness, if the children affected be sent to some other place, they alone will remain under the disease, without conveying with them the germ of contagion, as some have supposed. It may be said that the germ becomes weakened, or even destroyed, by the change of air; but there is equal reason for supposing that no germ exists as that it becomes inactive. It is necessary to prove that such a germ does actually exist, before the hypothesis alluded to can be received as an objection; as no one has as yet done this, we conceive ourselves, therefore, sufficiently authorized to deny it."

In a note to this passage, Dr Von dem Busch, admits that the hooping cough may in part be caused by a peculiar condition of the atmosphere, but contends that the extension of the disease is de-

pendent upon contagion, he has not, however, brought forward any fact in evidence of this opinion which may not be as readily explained without the supposition of contagion.

The recurrence of pertussis in the same individual being, confessedly, extremely rare, this circumstance has been advanced as an argument in favour of its contagiousness; but the argument can have little weight, when we consider that other diseases, acknowledged on all hands to be contagious, the small pox, for example, may attack the same individual more than once. If it be true, as asserted by our author, that an individual labouring under pertussis will not communicate the disease to others when removed to a place distant from the one in which he was attacked, this, in our opinion, determines the question ; the disease cannot then be contagious.

In common with the most accurate observers, M. Desruelles refers the production of hooping cough to the ordinary causes of inflammatory affections. As, however, the disease occurs very generally as an epidemic, or perhaps, to speak more properly, as an endemic, he conceives that by certain causes the system is rendered peculiarly susceptible to cerebral and bronchial irritation, so that on exposure to any of the causes referred to, the disease in question is the result.

"In fact," he remarks, "before the appearance of the hooping cough at any particular place, the causes which give rise to irritations of the mucous membrane of the nose and respiratory passages have, in general, already existed for some time. The seasons have been irregular and subject to sudden alternations of temperature, or the prevailing weather has been damp, windy or cold."

Infancy, the female sex, a nervous and irritable constitution, teething, &c. are the circumstances which are enumerated as directing the action of the foregoing causes to the brain and lungs, and by that means giving rise to hooping cough.

The preceding statement of the causes of pertussis, is supported by an examination of the various histories of the disease, when it has occurred epidemically, and by a reference to the age and sex of those inscribed upon the bills of mortality as its victims.

Passing by the facts collected by our author, with the view of determining the mortality of hooping cough, as well as his chapter upon its occasional complications with encephalic, thoracic and abdominal inflammation, we arrive at that portion of the treatise in which the various remedies that have been recommended for the cure of the disease are considered in detail.

While we feel strongly inclined to adopt most of the opinions of M. Desruelles, in reference to the pathology of pertussis, our experience obliges us to differ from him, however, very widely upon the subject of its treatment, which, like a genuine disciple of ultra Broussaism, he would confine almost solely to leeches, sugared water and pediluvia, proscribing the employment of emetics, cathartics, blisters and antispasmodics, as well as the favourite narcotics of the German practitioners.

It is undoubtedly true, that the treatment of hooping cough has, heretofore, been in too many instances marked by the grossest empiricism, and that not a few of the articles detailed in books, as remedies for the disease, are calculated to do more harm than good, while others are perfectly inert. But from this list of objectionable or useless remedies, we must be permitted to except several of those to the employment of which our author most strongly objects; without them we should really find ourselves unable to manage many of the more violent cases of pertussis.

That there are but few cases of this disease in which local depletion by leeches from the head or chest will not be found highly beneficial, while in many the neglect of it will be the means of prolonging the sufferings of the patient, or may endanger the occurrence of a very serious or even fatal termination, we freely admit.

But we cannot be persuaded by mere hypothetical reasoning, that other remedies are either useless or improper. Experience teaches us the contrary. Thus, for example, we have more than once known an emetic, when administered in the very commencement of an attack, or subsequent to direct depletion, to cut short the disease, and have very generally found it to relieve the violence of the cough and oppressed respiration, to a greater degree than when leeches have been trusted to alone.

Speaking of the employment of emetics, Dr Von dem Busch, in one of his notes, after remarking that the experience of physicians generally is in its favour, adds:—"It has appeared to me that when properly timed, the administration of an emetic is productive of very considerable benefit in hooping cough, not only by increasing the discharges of a viscid mucus very difficult to be removed, but likewise by a beneficial impression which it communicates to the brain and nervous system. Very active emetics, however, I consider injurious, and hence in the present affection prefer the ipecacuanha to the tartrite of antimony. Under those circumstances

in which I have believed emetics to be indicated, I have generally employed a combination of ipecacuanha and oxymel of squills, and with the best effects."

The presence of active febrile symptoms, or of an evident congestion of the brain or lungs, this gentleman enumerates as circumstances which render the exhibition of emetics improper.

In a subsequent note, Dr Von dem Busch makes the following remarks upon the employment in this disease of nauseating doses of ipecacuanha, a remedy from which, although among those proscribed by M. Desruelles, we have derived very decided advantage.

"Not merely as an emetic do I exhibit the ipecacuanha in pertussis, but also in small doses, at long intervals, as an antispasmodic, and with the best effect. My common dose is a fourth of a grain every three or four hours, in conjunction with flowers of sulphur. Kopp was extremely fond of a similar prescription, with the addition of belladonna."

Blisters to the chest, or between the shoulders, constitute another remedy from which we have derived benefit in pertussis, but which our author considers proper only when "the cough continues after the disappearance of the convulsive phenomena, and it is feared that the bronchitis is verging to a chronic form." At a much earlier period, however, after local depletion has been carried to a sufficient extent, we are persuaded that they will be found a very efficient remedy.

Evidence of too conclusive a character has been presented in favour of the employment of narcotics in hooping cough, either by the mouth or after the endermic method, to leave any possible doubt upon our minds as to their beneficial effects in mild cases, or when the acute stage has passed by.

Dr Von dem Busch mentions two cases of pertussis in which he employed the extract of stramonium in doses of one-twelfth of a grain every three hours. Both patients were children of three years of age. In one, the convulsive cough was removed in ten, and in the other, in twelve days. It is mentioned, also, that Dr Heineken, jr, during a recent epidemic hooping cough, derived much advantage from the use of this remedy.

It was not our intention, in the present review, to enter at length into an examination of the most judicious and successful treatment of hooping cough. The remedies must of course be modified by the violence of each case; its simple or complicated character; the

age, sex, and constitution of the patient, &c. So far as it goes, the treatment laid down in the work before us, is in the highest degree judicious. We do not object to a single remedy which the author has directed; our only complaint is, that he has marked with reprobation, and evidently from preconceived notions of their injurious effects, several of those which experience has shown to possess a very powerful influence in diminishing the violence and shortening the duration of an attack.

The German translation of Dr Von dem Busch, so frequently noticed in the course of this article, is extremely well executed. The notes by which it is accompanied are all interesting, and, in many cases, form valuable additions to the text.

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Article IV.—*An Introduction to the Practice of Midwifery. By the late* Thomas Denman, M.D. *Licentiate in Midwifery of the College of Physicians, London, and Honorary Member of the Royal Medical Society at Edinburgh. From the sixth London edition, with a Biographical Sketch of the Author—Third American edition, illustrated with numerous engravings: with notes and emendations. By* John W. Francis, M.D. *Professor of Obstetrics and Forensic Medicine in Rutgers Medical Faculty, Geneva College, New York; Member of the Medical and Chirurgical Society of London; of the Wernerian Natural History Society of Edinburgh; of the Academy of Natural Sciences of Philadelphia; of the Lyceum of Natural History of New York; of the Literary and Philosophical Society of New York, &c. New York*, 1829. *Pp.* 776, 8*vo.*

What a title page! Denman's Midwifery is a book dog-eared and thumb-marked by every pupil in physic from Piscataqua to the Balize; and we venture to assert, that not one of the very least of them would have mistaken the work, had it received the more brief and comfortable compellation of "Denman's Midwifery, by J. W. Francis, M.D. New York, 1829." Such folks as his reverence Mr Thomas Frognall Dibdin may venture to excuse and even promote

long title pages, inasmuch as they draw both bread and philosophy, riches and reputation out of them; but, for all uses, save those of the bibliomaniac, not bibliographer, they are bad things—not captivating to the eye, not in good taste, and, more than all, out of the fashion—we consider it to be no *bienseance* to make long titles in the 19th century. Lord Mahon, who has just published a beautiful book, deserving a high rank in the annals of letters, names it "The Life of Belisarius, by Lord Mahon," and the critic whose inchoative ink has begun to flow with the very caption, will be always led captive into a good and benevolent strain of function by having to deal with a short one.

These remarks, though they may have been extorted from us by the tedious necessity of copying the long one above, duly transcribed, are not to be taken as the effusion of spleen against the book itself. A new edition of DENMAN, particularly one so handsome as this, is quite welcome; and if the notes and emendations are as good, they shall be welcome too. We profess to be, however, a little difficult on this subject; for our tyro habits and academic reminiscences are connected with a prescriptive veneration for THOMAS DENMAN. There seems to us a kind of professorial, ex cathedra, Crotonian physiognomy about the old man, that is destined to carry him down to distant ages as one of the great ones of this department of science. His works are likely to be good and true for years to come, in spite of the multiplication of volumes, and the promulgation of improvements, which often are found to be no improvements at all.

Be it so, as has so frequently been urged, that Dr DENMAN was a quiet, gentle, and even timid practitioner; his precept and his example are, nevertheless, far better calculated than those of the slap-dash operators, with wheel-barrow loads of hooks and pincers, to infuse into the student's mind that *festina lente* tone, which is to be found at the basis of all great characters in midwifery; a tone of mind without which we shall find few MAURICEAUS, DENMANS or BAUDELOCQUES in the times to come, and the absence of which is hardly less injurious to the sex than the presumption and ignorance of the old women, who have been at length so generally superseded in this country by regularly educated obstetricians.

We do not mean to assert that DENMAN's Midwifery is absolutely the best book ever published on the subject—it is one of the best of the systems; and it is so adjudged to be by the common consent of

the profession, by whom it has been awarded a place among the medical classics. It has not, and could not have had, all the fulness of details that distinguishes the works of MAURICEAU, PERFECT, SMELLIE, and LACHAPELLE, particularly the "Collections" of SMELLIE, from the perusal of which a diligent student cannot rise without finding himself endowed with somewhat of personal experience and habitude; such is the graphic, we were going to say pictorial character of his cases and descriptions, a quality in SMELLIE's Collections not to be expected in systematic treatises, like those of DENMAN, BAUDELOCQUE, &c. which are necessarily taken up in more formal and didactic disquisitions on the principles and laws of the science—for science it certainly is, and very high science.

We cheerfully admit that improvements and emendations may be made, even on DENMAN. It would be preposterous, servile, yea, even anile, to deny that much is done and that much remains to be done: the science has made a progress of late years, to which no parallel can be found in its former history; and as it is with us a favourite pursuit; involving precious interests of society, as deeply as any branch of medical vocations whatsoever; requiring for its *proper* cultivation, profound studies of the most varied kinds, we hail the publication of new works, or the republication of old ones, acknowledged excellent, as of good augury for its future march. They diffuse a wholesome appetite for the scientific pursuit of this long degraded and much abused profession, and we may take this occasion to add further, that we feel, as Americans, a sort of national pride, that the profession is now indebted to our fellow citizen for a standard authority on this subject, a work combining at once the largest disquisitions on the principles, and the most abundant store of practical illustrations of obstetric science and practice; DEWEES's Midwifery is reprinted, and daily quoted, and extolled, and referred to, in the very ears of the reviewers who denied, not long ago, that an American book could possibly be read, or that mankind could be at all obliged to American physicians and surgeons. But we have not Dr DEWEES's work under review, and shall proceed to make a few brief notes of Dr FRANCIS's performance.

Dr FRANCIS has favoured the public, in the work now under consideration, with additional matter to the amount of about 300 pages, comprising notes of his own, tables of various kinds, the whole of DENMAN's Aphorisms on the application and use of the forceps and

vectis, and a series of engravings, with illustrations. To employ Dr Francis's own words, "The student will find that this edition possesses many materials derived from the works of the most recent and distinguished authors, both European and American; and within these pages will be found some principles and facts which my own individual experience and observation have supplied, and which I believe will prove of practical value. Many parts of forensic medicine are so intricately interwoven with obstetrical science, that I could not forego the opportunity of introducing them into this volume," &c. We ought not to forget that there is also a History of Midwifery, which was part of the introductory lecture delivered in the University of New-York, in November 1820.

The first considerable note of Dr Francis is to be found at page 104, and relates to the long disputed point, the separation of the pelvic synchondroses in pregnancy and labour. Dr Denman, after stating the antiquity of this medical dogma, and alluding to the discussions concerning it in modern times, remarks—"I know not that we are authorised by the experience of the present time to say, that a separation, or a disposition to separate, prevails universally at the latter part of pregnancy, or at the time of labour; yet that these effects are often, if not generally, produced, may be gathered from the pain and weakness, so often mentioned and complained of, at the parts where the bones of the pelvis are joined to each other, before and after delivery." Page 99. Farther, "It then appears, that the degree of separation at the junctions of the bones of the pelvis to each other, may be very different, and that when it takes place beyond a certain degree, it is to be considered as morbid." Page 99. He then relates cases exemplifying the possibility of the occurrence, having also cited Harvey and Ruysch in favour of, and Mauriceau in opposition to, the opinion.

When an author gives to any topic a careful consideration, which includes obedience to the notable maxim "audi alteram partem," he has a fair right to express his sentiment, made up on a review of the whole case; and one man's opinion, as such, is as good as another's. Facts are the things that deserve the good old denomination "stubborn:" opinions are light as air—not more stable than thistle-down.

Such being our ideas, we were a little hurt to find Dr Francis asserting that Denman's opinion, that a separation of the bones of the pelvis, or a disposition in them to separate exists, is "somewhat

extraordinary." Dr FRANCIS himself shows that we have the highest authority for believing that it has repeatedly occurred; we see nothing "extraordinary" therefore in DENMAN's sentiment, inasmuch as Dr FRANCIS himself cites HIPPOCRATES, AVICENNA, DIEMERBROECK, RUYSCH, BLUNDELL, GREENE, LOUIS, POST and HOSACK in support of the sentiment, while he cannot but give credence to DENMAN's cases. We merely present his own citations; we could multiply examples from the books to an extent not warranted by our limits, and by no means necessary here. The gist of Dr DENMAN's expression is, that the occurrence is often produced, but in degrees so different that the excess only is to be regarded as morbid. The opinion of Dr MOORE, of New York, adduced as evidence in this note, may be regarded as of little bearing on this question, when it is considered that Dr DEWEES, of this city, whose experience has been gained by the personal observation of nearly ten thousand labours, has seen very few examples of distorted pelvis; only three or four among American women.

Dr DENMAN practised in London, where pelvic distortions and deviations are far more common, and consequently far more likely to give rise to the condition in question.

Every practitioner accustomed to observe carefully the phenomena of labour, will have remarked that in general there can be no need whatever for a separation of the pubic surfaces; for the proportion between the head of the child and the straits, is in general too wisely adjusted by a careful Providence to render such a separation probable or needful—but in a very long labour, rendered tedious by narrowness of the bony passages, it is by no means an extraordinary fact that nature has provided for the emergency by a possible increase of diameters, in the manner mentioned by our author*.

We shall take this occasion to remark, that all complaints made by women, of pains and uneasiness about the pubes, are not to be

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* We will here quote one passage from M. Velpeau; he is speaking of the phenomena that are precursory symptoms of labour.

"C'est alors surtout que les articulations, que tous les ligamens de la cavité pelvienne se ramollissent et se relachent; ce qui rend la progression ou les mouvemens de la translation et la station elle même plus difficiles, plus fatigans, et quelquefois même veritablement douloureux, quoique la femme se sente mieux disposée á les executer." Vol. II. 421.

regarded as evidences of a degree of separation of the joint; such complaints being not unfrequently dependent on some affection of the round ligaments which resolve themselves ultimately into the cellular tissue of the labiæ; they vanish soon, but if severe, would not be unlikely to impress us with a fear that the pubic junction had suffered a severe strain.

Dr Francis has given another note, commencing at page 123, at the close of Dr Denman's first chapter. He treats in it of the influence of rickets, or mollities ossium, in causing deformity of the pelvis, and corrects Dr Denman in the assertion that deformity always occurs in the antero-posterior diameter. Dr Denman's expression is, "The pelvis is more commonly distorted at the superior aperture than at any other part, but never laterally." Page 121.

We must take the liberty to say that Dr Francis seems to have read the passage inattentively, or he would have observed that Denman speaks only of the superior strait in this instance; there is, therefore, no ground for Dr Francis's remark, that "The opinion of Dr Denman, that when the pelvis is injured in its proper proportions, it is always in the small diameter of the superior strait, is scarcely tenable." It is, indeed, not at all tenable, nor does Denman hold it, for he says expressly, "The form and dimensions of the cavity of the pelvis may be changed *in any part of its space*, but the most frequent alterations proceed from the sacrum, &c." "The os coccygis may be pressed inwards in such a manner that the point of it may approach the centre of the cavity." "The ischia may be distorted by the unnatural bent of the spinous processes, &c." "The dimensions of the inferior aperture also may be lessened by the tuberosities of the ischia bending inwards or forwards, by which the arch of the pubis will be lessened, and rendered unfit to allow of the emergence of the head of the child under the symphysis of the ossa pubis." Page 122.

Dr Francis will excuse us for bringing the above citations, in defence of our paragon, against the blame likely to fall unjustly on him by a lapse of attention in his editor. They make it very abundantly clear that Denman was too well instructed in his business, of which he was a great teacher as well as practitioner, to fall into so egregious an error as is here imputed to him, though he has committed a minor oversight in saying that the vitiations of diameter of the superior strait are always in the antero posterior direction. Denman, however, only intended to speak of the superior

strait in this instance, and the editor has understood the sentence as applying to the whole bony canal. The substance of the note consists chiefly of remarks on rickets and mollities ossium, which he thinks are not produced by the same causes, rickets being dependent more probably on a scrofulous constitution of the body than mollities. To us it seems established beyond doubt that rickets and mollities ossium are one and the same disease, both depending on some modification of the vascular apparatus concerned in the nutrition of bone. The phenomena of mollities are different from those of rachitis, because the subjects are commonly at a more advanced period of life.

"Mollities ossium," says Dr FRANCIS, "is a very rare disease, and its subjects are persons of middle age, or more commonly advanced in life. It does not appear to be so frequently connected with a scrofulous habit of body as rickets; and perhaps, upon further inquiry, it may be found to occur under a greater variety of circumstances of living and occupation. The natural solidity of the bones is destroyed by an inordinate absorption of their earthy constituent, but more frequently both the animal and earthy matter seem absorbed until mere shells are formed, which, too, are also softer than natural bones of the same thickness; occasionally large cavities are met with in the substance of the bones, in which are often contained an oily substance, somewhat similar to marrow; sometimes masses of coagulated blood, or a soft and partially organized animal matter. There is a considerable difference in the degree of softness in the bones in different patients."

Page 142. A note on the hymen. Dr DENMAN says, "it is very generally, *if not always*, found in virgins," and Dr FRANCIS remarks, that while its very existence "has been denied by some of the highest names in science," the most distinguished medical jurists have very generally appealed to it as a natural production. "Nevertheless," he very judiciously adds, "the presence of the hymen is not decisive," witness the numerous cases of pregnancy with this membrane intact. The whole of this note goes to show what we regard as a very useful demonstration, viz. that the presence or absence of the hymen has nothing to do with the question of female morals; and we should be glad to see such an opinion largely diffused through the community; doubtless, many a marriage has terminated in distrust, jealousy and hatred, because doctors, and philosophers, and *commères* have deigned, cheek by jowl, to dissert on the mysteries of this subject in an oracular tone, which is more fitted for the intellectual latitude of Fez than of London or Paris.

Dr Francis speaks like a man of sense and liberality when he sums up the subject in these words :—"It may be safely asserted that this membrane is frequently wanting in the *natural* and *healthy state* of the parts."

We cannot pass by this note without a remark on the italicised quotation from Professor Bushe of Rutgers College. "*The hymen*" says Professor Bushe "*is somewhat of the same nature as an erectile tissue; it may be deemed a duplicature of the mucous membrane of the vagina*," *&c.*

We cannot dive into the philosophy or logic which constructs an erectile tissue out of a duplicature of the mucous membrane. The nipple, the penis, the areolar structures, are not mucous membranes. However, as we know not whence the quotation is derived, nor its context, we have no right to criticise on this point further than to say, that it is good not to quote any body, if we cannot quote him at length, and to justification.

Dr Francis gives a note at page 226, on the menstrual function. He thinks the fluid may be considered "as a secretion from the extreme arteries of the membrane immediately lining the uterus." The fluid has been collected from women labouring under prolapsus uteri, and carefully analysed. "It exhibits the properties of a *concentrated* solution of the colouring matter of the blood in a *diluted* serum, of a colour of green tint, when received by transmitted light; it is destitute of fibrin, contains no globules, and does not coagulate, nor does it yield to the putrefactive process so readily as common blood. But this subject is not without difficulty, inasmuch as any inward discharge from the uterus may modify the constituents of the menstrual flux, and it varies more or less in its chemical qualities, as it passes off in small quantity, or as the flow becomes great by sanguineous mixture."

We have presented the above extract from Dr Francis, although we were extremely well satisfied with the brief and sententious manner in which Denman dismissed the topic after having said all that was really needful on it.

In relation to the existence of a membranous lining of the internal face of the womb, we feel great inclination to lay before our readers the opinion of a late writer on midwifery, and one of the best, if not the best, of the late writers.

M. Velpeau says (Traité Elementaire, I. 77,)—"The *internal membrane* is not admitted to exist by all anatomists. Gordon,

Chaussier, Ribes, &c. reject it: the most careful dissections, putrefaction, ebullition, chemical reagents, are equally incapable of demonstrating its existence to these observers, except towards the close of pregnancy; but in that case it was, according to them, a newly formed pellicle, and not a natural membrane. Beclard also taught that the internal lining membrane of the womb was not a complete mucous lamina, but that it was destitute of an epithelium. It is true, that except in the state of pregnancy, the existence of this internal membrane cannot be always clearly demonstrated, but I have succeeded in raising very distinct portions of it in women who had died either pregnant or very soon after delivery. Provided, even, we could not effect its mechanical separation, analogy would convince us of its presence: the mucous membranes alone are provided with villi; they alone furnish mucus in the healthy state, and muco-purulent matter when in a diseased condition. On their surfaces we expect to find polypi, and sanguine exhalations; therefore, the glairy mucus observed in labour, the leucorrhœic discharges, the menstrual function, &c. prove that the internal surface of the womb performs the same functions, and is subject to the same diseases as the mucous membranes." From all the above, M. Velpeau infers that if we must deny the existence of an internal tunic of the uterus, we must at all events admit for it a mucous surface.

M. Velpeau continues his observations on the subject in a strain so sensible, that we shall yield to the temptation to lay them before our readers, because they will be novel, and assuredly interesting to the great majority of them.

"During several weeks of its existence," says he, "no one organ of the embryo is clothed with a mucous membrane; not one of them is divisible into lamellæ of different natures; they are all formed of a homogeneous tissue; the intestines as well as the other great hollow viscera have surfaces, not *internal* and *external membranes;* it is at a later period, and by slow degrees only, that the distinction of tissues observed by zoologists is established, such as we find it after birth. Thus, the interior of all the cavities, of all the canals that communicate with the external air, more or less immediately, present the appearance of villous surfaces; but to this fundamental character are united others, varying according to the organ, and causing every portion of the mucous tissue to harmonise with the uses of the parts, in the structure of which it enters. Sometimes it is a moveable lamina, thick and folded, as in the alimentary canal; at other times it is a thin polished stratum, and sep-

arable with difficulty from the adjacent layers, as in the ureters, the vasa deferentia, &c. Although follicular and villous, this element may adhere so intimately to the substance of the organs, that it cannot possibly be separated from them, and such is the case in the uterus. Nature, faithful to great principles, seems to take delight in varying forms in this instance, without multiplying means. She is satisfied with a mere rudiment on some points, while on others she arrives at one step to the height of perfection ; but on the other hand, what she leaves, as it were, incomplete in the normal state, is sometimes completed by disease, or by an eventual condition ; thus it happens that pregnancy, a polypus, or some other lesion, has rendered the mucous membrane of the womb completely manifest."

There is a very interesting note at page 270, a part of which we shall transcribe. In February 1826, Dr FRANCIS had an opportunity of witnessing the dissection of a pregnant female, who had just died undelivered. The patient was twenty-five years old. She was in excellent health when she fell into labour; about four o'clock in the morning she was seized with convulsions, and died before nine o'clock.

"Leave being kindly permitted to make such use of the body as was deemed most fit, Dr ANDERSON and myself thought this an invaluable opportunity of ascertaining, as far as practicable, the physiological views which Mr HUNTER had given concerning the placenta, its attachment with the uterus, and the vascular connexion existing between the mother and child. Accordingly, within two hours after, we carefully removed the gravid uterus, and with it the entire contents of the pelvis. On the morning of the ensuing day, the parts being duly prepared, and the uterine veins and arteries properly secured by ligature, a fine sized (*size*) injection, coloured with vermilion, was introduced by Dr ANDERSON, by means of a four ounce brass syringe and pipe, inserted in the right uterine artery. The quantity of injection thrown in was indeed remarkable, and it was continued until the vessels of the womb were distended to an extraordinary degree. There was now apparent, both an increase in the thickness of the parietes of the womb, and an enlargement of its dimensions.

"On investigating the extent to which the injection had passed, it was found to have filled, to the greatest degree, both the veins and arteries of the same and opposite side of the uterus in which the injection was introduced, as well as the ovarian arteries : the fallopian tubes were also very minutely injected, and the vascularity of the peritoneal coat of the uterus was rendered very apparent. An incision of nearly five inches in length was made through the substance of the uterus, at the margin of which the placenta was at-

tached; this incision was subsequently extended round rather more than one half of the edge of the placenta, and the parts turned up. The parietes of the womb were found to be about *seven lines in thickness*. A major portion of the placenta was now easily and gradually detached from the uterus; by so doing we were enabled to see most distinctly the connexion which existed between the placenta and uterus. By this detachment the mouths of the lacerated vessels were clearly visible; the uterine arteries were observed to enter tortuously into the substance of the placenta, and the returning veins were found to be sinus-like and filled with injection. The entire substance of the placenta was filled with injection; the intervening membrana decidua, which had freely allowed the ingress and egress of the injection, was also seen, and the deciduous membrane lining the cavity of the uterus was also injected. No extravasation had occurred. Notwithstanding the extreme minuteness to which the injection had been carried, no traces of it could be detected, either in the chorion or ammion, nor in the vessels of the cord. In short, the appearances resulting from this experiment bore a most faithful resemblance to those published by Mr HUNTER, though I am not prepared to come to the same physiological conclusions with that eminent philosopher. This preparation was subsequently examined by my friends Professors POST and HOSACK of New York, and Professor DEWEES of Philadelphia," &c.

We will subjoin a few remarks on the above, and then terminate this article, already perhaps drawn out to too great a length. In the first place, we venture very respectfully to object to the haste which seems to have been used in securing this interesting subject—"two hours" only, we so understood Dr FRANCIS, elapsed from the time of the patient's death until the uterus and contents of the pelvis were removed. We object to this, not because there is really any sin or cruelty in it, but because it is a high precedent for persons not so competent as those concerned in this case; a precedent which, if much followed, cannot fail, at some time or another, to lead to the most horrible embarrassment. The fate of Vesalius should serve as a sufficient memento and warning to all present and future times.

The whole result of this experiment does not convince us that the fœtal and maternal fluids are never transmitted from the one individual to the other. In this case it cannot be true that *exceptio probat regulam*, and there is no doubt of the fact, that a fœtus has lost its blood by hæmorrhage from the maternal vessels, and that injections have been passed from the maternal vessels to the vessels of the fœtus; and, if it has succeeded in the hands of one experimen-

ter, the doctrine ought to be considered as settled, though it should fail in a thousand others. The communication may be effected by a capillary system, and therefore not subject to demonstration by injections, except under very favourable circumstances.

Dr Francis informs us in the extract above, that "the entire substance of the placenta was filled with injection, and the intervening membrana decidua, which had freely allowed the ingress and egress of the injection, was also seen, and the deciduous membrane lining the cavity of the uterus was also injected." Here are some ideas with which we feel ourselves incapable of sustaining what is sometimes called unity with the editor, and shall therefore give our reasons for the dissent.

Let us suppose, as is admitted, that before the ovule descends through the fallopian tube, the interior face of the uterus is lined with a deciduous membrane that passes over the opening of the fallopian tube, as it does over every other point of the cavity, and completely occludes it; when the ovule is about to pass into the womb, it must push this decidua away from the spot by which it is to enter, and this removed portion, which becomes an epichorion or decidua reflexa, invests the advancing body as the pericardium does the heart, or as a lung is invested by its pleura. It must frequently happen, that the globule will slide along between the decidua and the womb, so as to fix itself upon the centre of the fundus, the side, or directly over the orifice or inner mouth of the organ. But, as it begins to grow, the reflexa or epichorion grows with it, the spungy chorion attaches itself to the uterus, and thus constitutes the rudimental placenta, which is agglutinated, not to a decidua, but to a spot on the womb itself, outside of or beyond the decidua. The decidua therefore may come up to the edge of the placenta, but cannot exist between it and the womb; just as the pleura costalis may come up to the root of the lung and thence pass over that organ, but cannot pass between the lung and mediastinum and inclose the lung itself. The fact is, that unless we admit this mode of explanation, which is clear and consonant with careful observations, we cannot teach any person how a decidua reflexa is formed or can exist. Dr Francis's account would teach us to believe that the decidua vera passes behind, or outside of the placenta; if so, the decidua reflexa or epischorion must be in itself considered a complete sac, an idea which its very appellation serves to reject. The true doctrine on this often obscure point is, that there is no decidua, either vera or

reflexa, behind or before the placenta. The chorion covers the fœtal face of the placenta, and gives origin to that body from the beginning; after passing off from the placenta, it comes in contact with its epichorion or decidua reflexa, which again touches the decidua vera, which is in immediate contact with the womb.

We offer these remarks with great deference, for the consideration of Dr Francis, who, as well as our readers, will find the opinion more ably maintained than it can be by us, by Dr Velpeau, in his valuable Elemens de l'Art Accouchemens; if these remarks are just, Dr Francis must agree, that he was misled in supposing that he saw the decidua intervening between the placenta and uterus.

We must here close our notice of this work. We are obliged to Dr Francis for presenting a handsome reprint of Denman's Midwifery, and feel also, in justice to the supporters of this Journal, bound to say, that we are not well pleased with the style of every part of the Editor's composition; which is often faulty to a degree obnoxious to severe criticism. Ex. gr. at p. 270. "Leave being kindly *permitted* to make," &c. the injection "was found to have filled to the greatest degree, both the veins and arteries of the *same* and *opposite* side of the uterus, *in which* the injection was introduced," &c. "I once had a *specimen* in like manner, in *opposition* to Dr Denman's belief." P. 123. Hæ nugae, however, ought to have no influence in diminishing our thankfulness for Dr F.'s zeal in the cause of the obstetric science, and he will kindly pardon our freedom in calling his attention to these *lapsus* of style, which he may be thereby induced more carefully to guard against on a future occasion. What accoucheur in the United States is at present without a copy of Denman's Midwifery? Let him be no longer subject to so grave a reproach.

ARTICLE V.—*The Influence of Climate in the Prevention and Cure of Chronic Diseases, more particularly of the Chest and Digestive Organs: comprising an account of the principal places resorted to by invalids in England and the south of Europe; a comparative estimate of their respective merits in particular diseases; and general directions for Invalids while travelling and residing abroad. With an Appendix, containing a series of Tables on Climate. By* JAMES CLARK, M.D. *Member of the Royal College of Physicians of London.* 8vo. *Pp.* 308. *London,* 1829.

The nature and influence of climate have been little understood even by professional men. Numerous and important circumstances enter into its composition, which have a mutual and important agency on each other. The temperature, the winds, the moisture or dryness, the location of any spot, whether by the sea side or in the interior, whether sheltered by mountains or exposed in valleys and plains: these and numerous other points have an essential influence on the climate of places whose latitude and longitude might nearly correspond. That any invalid should be benefited by a change of climate, the circumstances above alluded to should not only be regarded, but they should be carefully adapted to the natural constitution and to the peculiarities of the diseased condition of the patient. As Dr CLARK has judiciously observed, climate is not a specific remedy. Like almost every other curative agent, it must be adapted to the circumstances of the case, and, moreover, must be assisted by a steady and careful perseverance in all those measures which are considered necessary when climate enters not into the views of the practitioner. Very many have not been benefited by a change of residence, from relying too exclusively on climate as a remedial agent. "My own experience," says Dr CLARK, "the result of extensive observation, satisfies me, that for the prevention and cure of a numerous class of chronic diseases, we possess in a change of climate, and even, in a more limited measure, of a change of air in the same climate, one of our most powerful remedial agents; and one, too, for which in many cases we have no adequate substitute;" but the patient "must trust more to himself and his own conduct than to the simple influence of climate, however genial." "I wish to impress the mind of the invalid with the danger of trust-

ing too much to climate." Similar observations abound in the work under notice, and we candidly acknowledge that, notwithstanding the very valuable information collected, and the many excellent remarks made, nothing has impressed us so favourably respecting the professional character of Dr CLARK, as his insisting so pointedly on the scientific adaptation of different climates to the peculiar circumstances of the case. This principle pervades his work, which savours nothing of empiricism, but after proper examination, and the candid confession of the little knowledge even yet possessed on this subject, points out as far as practicable, the particular climate best suited for each individual state of disease. In full accordance with this design, the book is divided into two parts—the first treating of the climate of particular places, and the second of the diseases usually benefited by climate.

PART I.—*On Climate.* We shall pass over the observations made on the climate of England, as not materially interesting to us Americans. The description, however, of the south and west of France, of Italy and Madeira, is interesting and valuable to the profession in this country, as so many are annually leaving our climate in quest of genial seasons, and so few have been benefited, for reasons already intimated.

*West and south-west of France*, including the whole tract of country from Brittany to Bayonne, comprising L'Orient, Nantes, La Rochelle, Bourdeaux, Montaubau, Pau, and Toulouse, as also the islands of Guernsey and Jersey.

The climate in this tract of country is directly opposed to that of the south-east of France. Though less warm, its temperature is more equal, and the range of this less extensive through the whole year, and also through the period of day and night. From day to day, however, it is more changeable. The mean annual temperature is about fifty-five degrees, being six degrees higher than England, and four degrees higher than the south-west of England, but three degrees below the south-east of France, and four degrees below Italy. The climate is soft, relaxing, and rather wet; hence it is suitable for complaints to which the south-east of France is injurious, as inflammatory dyspepsia and dry bronchial irritations. Hence consumptive patients with these complications, and in whom there is great susceptibility to the influence of dry keen winds, will be benefited by this climate. LAENNEC says, that the proportion of consumptive cases is small in this part of France, and particu-

larly recommends the southern coast of Brittany as a residence for phthisical patients. The south-west of France, generally speaking, will be useful in chronic inflammatory affections of the mucous membranes, accompanied with little secretion: also in dry scaly eruptions of the skin; in dysmenorrhœa; in certain kinds of headache; and in high morbid sensibility in general. On the other hand, the same diseases in relaxed habits, where there is a disposition to copious secretion, will be aggravated by this climate.

A particular description is given of the climate of *Pau*, the capital of the department of the Lower Pyrenees, situated about one hundred and fifty miles from Bordeaux, and fifty from Bayonne. It is thus summed up by Dr Playfair, who resided there several years. "Calmness, moderate cold, bright sunshine of considerable power even in winter, a dry state of the atmosphere and soil, and rains of short duration. Against these must be placed changeableness, the fine weather being as short lived as the bad; rapid variations of temperature, within moderate limits however, and heavy rains in autumn and spring." The characteristic quality of the climate is the comparative mildness of the spring, and exemption from cold cutting winds. In this part of France it is the most desirable winter residence for patients suffering from diseases already indicated. In these diseases, also, the mineral waters of the Pyrenees, particularly those of Bonnes, are also beneficial, and hence those individuals who have been benefited by the waters should, if possible, pass the winter at Pau, with the view of returning to them the following June. Patients with rheumatic affections should not reside at Pau.

*South-east of France.*—"Various places in the south-east of France have been at various times recommended as affording a good winter climate for consumptive patients; but nothing can be more unaccountable than how such an advice ever came to be given, as the experience of later years is in complete opposition to it, and the general and leading characters of the climate show that there never was the least reason to sanction it. That the country, which has always been infested by the terrible *Circius*, should have been chosen for the residence of the delicate and sensitive sufferer from pulmonary disease, is a striking proof of the very loose observations upon which the medical opinions respecting climate have been formed."

This opinion Dr Clark confirms by reference to the physical qualities of the climate, to the actual prevalence of consumption

among its inhabitants, and the total want of success which has attended the removal of consumptive patients to this climate. To Dr Clark belongs the credit of being among the first to publish these facts, some years since, in a work preliminary to the one now under review; and they have received continual and ample corroboration from professional and unprofessional travellers to the present period.

"The mean annual temperature of *Provence* generally is fifty-eight degrees; that is, about seven degrees warmer than the south-west of England, three degrees warmer than the south-west of France, and about a degree below Italy, including the climate of the lower Apennines. Its *winter* temperature is forty-three degrees, being only one and a half degrees above the south-west of England, and one degree above the south-west of France, while it is three degrees under Italy. The *spring* temperature is fifty-five degrees, namely, six degrees above the south-west of England, one degree above the south-west of France, while it is two degrees below Italy. The temperature is distributed very unequally through the year, the difference of the mean of the warmest and the coldest months being thirty-five degrees; this in the south-west of England is twenty-two degrees, in the south-west of France thirty degrees, in Italy thirty-two degrees, and in Madeira only fourteen degrees. Dryness is one of the most remarkable characters of Provence." It appears to be the driest district of Europe. "The general character of the climate of the south-east of France, therefore, is dry, hot, harsh and irritating." "Sometimes the winter is very rigorous." "This tract of country is subject also to keen, cold northerly winds, especially the mistral (from the north-west) which prevails during the winter and spring, and is most injurious to pulmonary diseases."

Injurious, therefore, as this climate is, and must be, to all irritations of the mucous membranes of the digestive and pulmonary organs, its keen, bracing, dry air will often be very beneficial to those of a torpid relaxed habit, and of a gloomy, desponding mind.

*Montpelier*, so highly celebrated for the salubrity of its atmosphere, deserves not the character awarded to it, at least as regards pulmonary diseases. In 1763, says M. Fournier, two thousand seven hundred and fifty-six patients passed through the hospital, of whom one hundred and fifty-four died; fifty-five of the deaths were from pulmonary consumption—more than one-third.

M. Murat, speaking of phthisis pulmonalis, says, "elle y enlève même des familles entières; et la position de la ville, et la constitu-

tion sèche et variable des saisons physiques, sont des causes locales qui la developeront toujours." Such is the testimony of native physicians, and it is abundantly confirmed by foreigners.

*Marseilles* is one of the towns in France in which pulmonary consumption is most prevalent; readily accounted for by the dry, variable, cold and irritating winds which prevail so generally. Pleurisy, catarrh, also cancer and cutaneous diseases, are frequent. Invalids requiring a dry climate, and capable of bearing keen, cold winds, will be benefited by a residence at Marseilles. Dr CAUVIERE, at present a distinguished physician in that city, informs us that bilious fevers prevail during the summer and catarrhs in winter; croup and gangrenous anginas are, however, uncommon. Scrofula is seldom observed, and children, brought to this place affected with it, are soon cured by sending them to the country, and allowing them to run about freely. It is a common remark made by Americans visiting Marseilles, that exposure to winds and dampness cannot be made with the same impunity as with us. Our personal experience fully confirms this fact. Although the general character of the climate is such as has been described, yet the winds from the Mediterranean, especially the south-east, often bring rain, and render the atmosphere very damp. These alternating with the piercing and dry mistral, prove very injurious to the sensitive invalid. During the months of October and November, which we spent in Marseilles, there was a constant succession of these changes; occasionally a clear warm day intervening. These unpleasant circumstances are exceedingly aggravated by the style of building, the deficiency of firewood, and in every way the total want of what we should call comfortable preparation for winter.

*Aix.* Similar observations may be recorded respecting the climate of Aix, which once enjoyed a reputation for the cure of consumption.

*Hieres.* This village possesses a high character in the United States as a suitable residence for the pulmonary invalid, and of all the places hitherto noticed, it is decidedly to be preferred. Although partaking of the general character of the climate of Provence, yet it is partially protected by a range of hills from the dreaded mistral; and is situated in an open, beautiful country, where the vegetable world bears striking evidence of the superiority of the climate over that of the generality of Provence. It is nevertheless not sufficiently secluded from the

north-west wind to render it a desirable residence for a consumptive patient. When this blows, he is obliged to secure himself from its influence, and of course is deprived of that exercise in the open air which is so desirable. We may add, that the accommodations are only tolerable, the town itself very small, the streets narrow and not remarkable for cleanliness; and there are few sources of amusement or intellectual gratification; no society, pleasant promenades or rides, so beneficial to the valetudinarian.

*Nice.* Perhaps no place on the continent enjoys more reputation for the salubrity of its atmosphere, especially for the pulmonary invalid, than Nice, and from all reports deservedly so, although our author is not quite so decided in its favour as other travellers. "Its mean annual temperature is fifty-nine degrees, being nine degrees warmer than London, seven warmer than Penzance, one degree colder than Rome, and five degrees colder than Madeira. The mean temperature of *winter* is forty-eight degrees; that is nearly nine degrees warmer than London, four warmer than Penzance, one degree colder than Rome, and twelve degrees colder than Madeira. The mean temperature of *spring* is fifty-six degrees, being seven degrees warmer than London, six degrees warmer than Penzance, one degree colder than Rome, and six degrees colder than Madeira. The temperature throughout the year is more equally distributed at Nice than at any place in the south of Europe, of which we have accounts, except Rome and Cadiz; the difference between the warmest and coldest months being only twenty-eight degrees, and the mean difference between successive months only four degrees seventy-four hundredths. The range of temperature for the day is also less at Nice than at any part of the south of Europe, and in steadiness of temperature it ranks next to Madeira."

The weather during the winter is comparatively settled and fine, with a clear atmosphere and brilliant sky; frost is very seldom perceived, so that vegetation is never suspended. These peculiarities depend on the situation of Nice, between the Alps and the sea. The former during winter protect it from the northerly winds, while the cool sea breeze, which prevails every day, moderates the heats of summer. Of course, the mistral from the north-west passes over Nice and spends its force on the sea, but during its prevalence, the keen dry quality of the air is sensibly felt. The sirocco (a south-east wind) rarely blows, and when it does, is gentle and not unplea-

sant to the feelings of invalids in general. Nice, however, is liable, especially during March and April, to easterly winds, which are sharp and chilly, and blow with considerable force, with a hazy, cloudy state of the atmosphere. They are very inimical to pulmonary patients. The climate is a dry one; rain falls chiefly in October and November, also at the winter solstice and at the vernal equinox. Nice is a healthy place. Catarrhal and pneumonic inflammations are the most frequent diseases, especially in the spring. Pulmonary consumption, though much less frequent than in England and France, still carries off a certain proportion of its inhabitants, especially in the town. In the hospital one-seventh of the deaths is said to be from this complaint. Gastric irritation is a very common complaint, and usually accompanies other diseases.

In *consumption* little benefit is to be expected from the climate of Nice, especially when there is an irritable or inflammatory state of the mucous membranes. In such cases the disease is often aggravated. "The cases of consumption which ought to be sent to Nice are of rare occurrence. If there are any such, it is when the disease exists in torpid habits, of little susceptibility, or not much disposed to irritation; and when it is free from the complications which have been just mentioned. Even the propriety of selecting Nice as a residence for persons merely threatened with consumption, will depend much on the constitution of the individual. Dr Skirving has met with cases which leave no doubt on his mind that a residence for one or two winters often proves of advantage, as a preventive measure, in young persons threatened with this disease; and even in some cases where there was reason to believe that tubercles already existed in the lungs, the climate has appeared to be useful. But in the advanced stage of consumption, his opinion, founded on eight years experience, accords with what has been already stated; and this is still further supported by the testimony of Professor Fodere, of Strasburgh, who resided six years at Nice. Indeed, sending consumptive patients in this stage to Nice, will, in a great majority of cases, prove more injurious than beneficial."

Patients with *chronic bronchial* disease, especially when there is copious expectoration, as in cases of humoral asthma, or tussis senilis, are usually much benefited by a residence at Nice. This variety is directly the reverse of that which is benefited by the south-west of France and of England.

In *chronic rheumatism* much benefit is derived; and on scrofulous complaints, particularly in children, a very beneficial influence is exerted. In all those dyspeptic, nervous and hypochondriacal complaints, accompanied with a torpid relaxed state of the system, with few symptoms of irritation, Nice is beneficial, as indeed in all cases where there is great torpor or relaxation. Hence in uterine complaints, where tonics are demanded, in individuals injured by a residence in warm climates, by mercury, &c. this climate is beneficial, since it may be characterized as warm, exhilarating and exciting: to the highly sensitive, it may he termed irritating.

Such is a summary of Dr CLARK's opinions respecting the influence of this climate; not so favourable, as we have already intimated, to the consumptive patient as the reports of other physicians would warrant.

M. RICHELMI, a physician now practising at Nice, and who has pursued his professional labours for thirty-four or forty years at different places on the borders of the Mediterranean, and has published, among other treatises, a work on the climate of Nice, controverts the opinion of CLARK, FODERE, PUGH and others, that the climate is generally injurious to consumptive patients. He says, that the quarter of the city termed Ponchettos, is the best situation in the whole world for pulmonary complaints. These are not mere opinions, but seem to be the result of much observation and investigation of facts, as he has kept regular accounts of the meteorological changes of the climate for successive years, as indicated by the thermometer, barometer and hygrometer; and has paid much attention to the bills of mortality and the various diseases to which the inhabitants are subjected. He endeavours to controvert the opinion that the neighbourhood of the sea is injurious to pulmonary patients, as maintained by FODERE*, or that the atmosphere is irritating, as supposed by Dr CLARK.

M. RICHELMI does not deny that phthisis pulmonalis may occur, but it is comparatively very rare at Nice and its environs; as the following table, extracted from his work, will show:—

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* Vide, HUNTT's paper on this point. North American Medical and Surgical Journal, vol. i.

*Table of the Mortality in the environs of Nice, situated on the borders of the sea, with a special reference to the deaths from consumption, as compared with those from other causes, and with the whole population.*

| *Communes.* | *Population.* | *Mortality in 10 years.* | *Mortality in 10 years, from Ph. Pulm.* | *Average annual mortality from Ph. Pulm.* |
|---|---|---|---|---|
| Monaco | 1,110 | 392 | 4 | 0.4 |
| Menton | 3,800 | 878 | 12 | 1.2 |
| Roquebrune | 715 | 160 | 2 | 0.2 |
| Castellas | 627 | 168 | 4 | 0.4 |
| Villa Francha | 2,500 | 459 | 6 | 0.6 |
| Bodiguera | 2,000 | 314 | 4 | 0.4 |
| Ventimille | 5,000 | 1,116 | 15 | 1.53 |
| San Remo | 10,697 | 3,500 | 60 | 6.00 |
| Total | 26,449 | 6,987 | 107 | 10.73 |

Hence the mortality per annum is about 1-37th of the whole population, and the mortality from phthisis pulmonalis is 1-2491st of this population, and 1-65th of the mortality from every cause.

The population of Nice, according to the same author, is about 24,000. In the space of four years the births amounted to 3,932; deaths, including strangers and the soldiers of the garrison, 3,136, being an annual average of 784, or about 1-31st of the whole population. This mortality is not much less than in many other places, which is owing, not to the climate, but to several causes, according to Richelmi. 1. To the number of poor who flock to Nice, (the largest city of the coast), and who perish for the want of the means of subsistence. 2. To the number of strangers who pass through it to Italy. 3. To those who come there for health and die. 4. To the small pox, which at the above period raged there, and, 5. To the number of discharged and exhausted soldiers then there, of whom many died.

We had occasion a few years since to spend several months at Nice, and enjoyed frequent opportunities of noticing the effects of the climate of that place in pulmonary and other complaints. From our observations we are disposed to admit, that Nice may be regarded as a delightful spot, where the salubrity of the climate is

rendered more efficacious to the invalid by the pleasant accommodations, the fine promenades, the excellent society, and the various amusements which a large town usually affords, and which are here accumulated owing to the numerous strangers who flock to this place from every quarter of Europe and America for the re-establishment of health, or in the pursuit of business or pleasure. Yet we are of opinion that Dr RICHELMI has somewhat exaggerated the beneficial influence of the climate in phthisis pulmonalis. On that subject we join in sentiment with Dr CLARK and Dr SKIRVING, and think that were Dr RICHELMI not to consider as cases of phthisis, all the chronic catarrhs that are *usually* benefited by a residence at Nice, and restrict the above name to tubercular complaints of the lungs, he would have no hesitation in adopting a similar view of the subject.

*Italy* possesses great diversity of climate, but our author notices only those portions situated between the southern base of the Apennines and the Mediterranean sea. The climate here is considerably warmer and less humid, but subject to a greater range of temperature than that of the south-west of France; it is softer, less dry, and less harsh and irritating than that of Provence, suffering more from the heavy oppressive winds of the south, and less from the dry searching ones of the north. Different places vary as to climate, according to their relative position with respect to the sea shore and the Apennines.

*Genoa* is situated between the sea and a range of hills, and has therefore no surrounding country well adapted for exercise. The summer is hotter, and the winter is colder than at Nice. The climate, on the whole dry and healthy, is not suited to invalids, particularly to consumptive patients, as there are often frequent and rapid changes of temperature; the dry cold winds of the north alternating with those warm and humid from the south-east, the two prevailing winds of the place. Hence inflammatory affections of the chest and tubercular consumption are the most common and fatal diseases of Genoa. Scrofula also is common. The healthiest months in the year are April, May, June, September and October; the more unhealthy are December, January, February and August.

*Florence* is a delightful residence for those who are not affected by changes of temperature, but for all invalids, particularly for those disposed to consumption, it is injurious. It is almost encircled by the lower Apennines, the summits of which are covered with snow

during the winter, and also exposed to the current of the valley of the Arno. The winters are cold, and the summers hot; there are sudden transitions of temperature, frequent fogs, and during the winter and spring, cold piercing winds. There is no class of invalids for whom Florence offers an advisable residence.

*Pisa* has a high reputation for consumptive patients. It is situated on the river Arno, about five miles from the sea shore, and thirteen from Leghorn, partially protected from northerly winds by a range of hills, and from easterly ones by the lower Tuscan hills. The north bank of the river is preferable for invalids, as the Arno, in passing through the city, makes a semi-circular turn to the north, so that the buildings on this northern bank shelter the broad space between them and the river from northerly winds. Pisa is not so warm as Rome in winter, but more so in summer. The range of temperature between day and night is considerable. The annual fall of rain is said to be very great, being 45.66; nearly as much as in Cornwall, England. The climate is genial, rather heavy and damp, softer than that of Nice, but not so warm; less soft, but less heavy and depressing than that of Rome. For invalids who are almost constantly confined to the house, or who can take but little exercise, Pisa is superior to either Nice or Rome, as the Lung d'Arno affords a warm site for their residence, as well as a sheltered terrace for their walks, beyond which, however, they should not venture before the month of April. A circumstance which we ought not to omit mentioning while on the subject of Pisa, is that the climate, from its greater humidity, arising from evaporations from the Arno, and the marshy nature of the adjoining country, is softer than that of Nice, and much preferable on that account to pulmonary disease, attended with irritation, or an irritable state of the lungs and of the system generally. In our own person we had an exemplification of this fact. While at Nice, the celebrated English surgeon, Mr Thomas Blizard, who had spent several winters at Pisa, and was as perfectly acquainted with the peculiarities of its climate as with those of the climate of Nice, apprized us of the fact, witnessing the irritative effects of the latter upon us, and often urged upon us the necessity of removing to Pisa as soon as the state of the roads would permit. The advice was followed, and we had every reason to be pleased with the change. We have since had occasion to notice the same beneficial results from the climate of Pisa in persons who had not derived ad-

vantage from that of Nice. But we repeat, this is found to be the case only in pulmonary affection, requiring a softer and moister climate. In other instances, when a tonic effect is desired, Nice will be preferable.

*Naples.* The climate of Naples more nearly resembles that of Nice; the autumn and winter being mild, and the spring subject to sharp irritating winds, rendered more trying by the heat of a powerful sun. It is more changeable than that of Nice, softer in winter, but more damp and wet, and also is affected by the sirocco, which is not felt at Nice The mean annual temperature is higher than that of Rome, Pisa, or Nice, but the annual range of mean temperature is considerable, being thirty degrees, while that of Nice is twenty-eight degrees, and of Rome twenty-six degrees. The daily range is also great, being two degrees more than at Rome. The temperature also varies much from day to day. There is less rain at Naples than at Rome. Consumption is not very frequent, nor in general rapid in its course. Rheumatism is very frequent.

Naples is not a suitable residence for invalids. Consumptive patients should not be sent there. "The beauty of its situation, the brilliancy of its skies, and the interest excited by the surrounding scenery, render it however a very desirable winter residence for those who rather require mental amusement and recreation for the restoration of their general health, than medical treatment for any particular disease." Neapolitan physicians condemn the neighbourhood of the sea for consumptive patients.

*Rome.* "The character of the climate of Rome is mild and soft, but relaxing and oppressive. Its mean annual temperature is ten degrees higher than that of London, eight degrees higher than Penzance, six degrees higher than Pau, about one degree higher than Marseilles, Toulon and Nice; one degree below that of Naples, and four degrees below that of Madeira. The mean temperature of *winter* still remains ten degrees higher than that of London, but it is only five degrees higher than Penzance; it is seven degrees higher than Pau, one degree higher than Nice, and somewhat more than Naples; it is four colder than Cadiz, and eleven colder than Madeira. In *spring*, the mean temperature of Rome is nine degrees above London, eight degrees above Penzance, not quite three degrees above Pau, and one degree above Nice and Provence; it is one degree colder than Naples, and only a little more than four colder than Madeira."

"In *range* of temperature, (the extent of which is the leading fault of the climate of the south of Europe,) Rome has the advantage

of Naples, Pisa and Provence, but not of Nice. Its diurnal range is nearly double that of London, Gosport, Penzance and Madeira. In steadiness of temperature from day to day, Rome follows Madeira, Nice, Pisa, Leghorn, and the south-west of Cornwall, but precedes Naples and Pau. With regard to humidity, Rome, though a soft, cannot be considered a damp climate." It is more moist than Nice, but considerably drier than Pisa and the south-west of France. It is not so dry as Madeira. Hence it appears, that in regard to physical qualities, the climate of Rome is the best in Italy. It is remarkable for the stillness of the atmosphere. There are occasional storms of cold wind from the north, (tramontana), seldom lasting more than three days. The tramontana is a dry, keen, irritating wind, like the mistral, and should be avoided by invalids. The southerly winds, not excepting the sirocco, are not here unpleasant. The winter sirocco is often grateful to invalids; the sensitive and the plethoric sometimes complain of its relaxing and enervating effects. The keen spring winds, combined with the influence of a powerful sun, are severely felt by the sensitive invalid, but less so than at Nice or even at Pisa. They usually subside towards evening, leaving calm, serene and brilliant nights.

The prevalent diseases of Rome are malaria fevers, of which our author gives some account, nervous affections, apoplexy and other similar cerebral diseases, inflammations of the chest, and head aches. Rheumatism is not frequent, neither is tubercular consumption; but this last is met with, especially, among the lower classes who have suffered from intermittents.

Individuals, in the early stages of *consumption*, have generally found the climate favourable. "I have frequently known patients who have left England labouring under symptoms that gave much and just alarm, which continued the whole journey, and, entirely disappeared after a short residence in Rome. The same persons have remained comparatively free from all bad symptoms during the whole season; and this when, from the ultimate result of the case, there could be little or no doubt of the existence of tubercles in the lungs at the time." In the advanced stage of consumption it cannot prove advantageous, and is often injurious.

In *bronchial affections*, with great irritability of the system, and much sensibility to harsh cold winds, it is very generally beneficial. The climate of Nice is better adapted for those cases of bronchitis where there is copious expectoration, and no gastric irritation.

*Chronic rheumatism* is much relieved by a residence at Rome; but this place should be avoided by all predisposed to apoplexy, or to nervous diseases.

For Rome to be beneficial to any invalid, much attention should be paid to the choice of a residence with a southern aspect. He must avoid exposure to the cold winds, by complete seclusion during their prevalence; and should not enter their cold churches, museums, &c., which offer so many temptations to the curious stranger.

The invalid, especially if consumptive, should not visit Rome before October; and the beginning of May will be early enough to leave it.

*Summer residence.* When invalids require several winters on the continent, much attention is required in choosing a summer residence. In doing this, a decision must first be made between the inconveniences of a long journey from Italy, and the oppressive heat of an Italian summer. The far greater number of invalids ought to quit Italy during the summer, particularly the apoplectic, the consumptive, the nervous, and all those liable to irritation of the mucous membranes of the digestive organs, and to abdominal congestions.

Should any remain, the most eligible places are the vicinity of *Naples*, *Sienna*, and the *baths of Lucca*. Where the sea air agrees well, and where sailing is useful, or sea bathing advisable, Naples will deserve the preference; but where there is much nervous susceptibility, or where the effects of the sirocco are likely to prove injurious, the baths of Lucca, and still more Sienna, will be better situations.

In the vicinity of Naples there are several delightful spots which are described by our author, but which we have not space to notice. Dr Crawford believes, that the island of *Ischia*, famous for its natural baths, of water, vapour (*stufe*) and sand, is one of the best residences near Naples; the heat during the day is moderated by regular sea breezes, and the nights are very pleasant.

*Sienna* is a cool situation, but liable to rapid changes of temperature, hence unfit for consumptive invalids. For the nervous and relaxed, it is better suited than either Naples or Lucca.

The *Baths of Lucca* are situated among the Apennines and behind Lucca. The mean temperature of the summer is only about six degrees higher than the summer of London. June, July and August form the proper season for a residence here. The mineral waters of Lucca have been in high repute; the baths are convenient, the ac-

commodations are good, and the rides on horseback are beautiful and varied.

But generally invalids should desert Italy. *Switzerland*, in point of convenience, would then be preferred, were it not for the danger from the sudden and great alternations of temperature, the great difference between the temperature of the day and night, and often from a sharp, irritating wind. With judgment and prudence, many of these circumstances can be avoided. All sudden changes are injurious, and the consumptive invalid must avoid over fatigue, profuse perspiration, exposure to a cold breeze, and should not take long walks or climb steep mountains. Horse exercise is, of all others, the most favourable. "I am convinced from experience that frequent and gentle motion through a mild atmosphere is one of the most soothing and invigorating measures which we possess for allaying an irritated and congested state of the mucous membranes of the lungs and improving the general health."

The borders of the lake of Geneva, particularly near the western extremity, afford the best summer residence in Switzerland. The patient should avoid a situation too near the water or too much exposed to the north. *A sea voyage*, not in the Mediterranean, but in the Atlantic, will in many consumptive cases be desirable. Those who have spent the winter at Nice will find among the Pyrenees a very convenient and agreeable retreat for the summer.

Invalids labouring under dyspepsia or hypochondriasis, will often be benefited by travelling over Switzerland, while some may derive more advantage from the mineral waters of Plombieres, of Vichi, of Ems, or of Carlsbad. Dr Clark insists much on the dangers of travelling in hot weather; the irritation and excitement arising from it in susceptible systems (especially when any organ is in a state of chronic inflammation, however slight in degree) will do more mischief than any advantage that can be derived from a short residence in the best climate, or from the use of the most valuable mineral waters.

*Madeira.* This island, so long famous for its delightful and salubrious climate, still maintains a reputation, in the opinion of Dr Clark well founded, of being the most desirable situation for consumptive invalids.

The mean annual temperature of *Funchal*, the capital of the island, is sixty-four degrees, being only five warmer than the Italian and Provençal climates. This moderate mean temperature arises from

the coolness of the summer; for while the *winter* is twenty, the summer is only seven degrees warmer than at London; and whilst the winter is twelve degrees warmer than in Italy and Provence, the summer is nearly five degrees *cooler*. The mean annual range of temperature is only fourteen degrees, being less than half the range of Rome, Pisa, Naples and Nice. The heat is also distributed through the year with surprising equality, so that the mean difference of the temperature of successive months is only two degrees forty-one minutes; this at Rome is four degrees thirty-nine minutes, at Nice four degrees seventy-four minutes, at Pisa five degrees and seventy-five minutes, and at Naples five degrees eight minutes. There is much equality also in the daily temperature, the mean range for the twenty-four hours being ten degrees by the *register* thermometer: while at Rome it is ten degrees, at Naples thirteen degrees, at Nice nine by the *common* thermometer, which gives only the extremes observed during the *day*. The steadiness of temperature from day to day exceeds that of all other climates; it is not half so variable as Rome, Nice or Pisa, and is only about one-third as variable as Naples. The same quantity of rain falls annually at Madeira as at Rome or Florence, but there are only seventy-three days on which any rain falls at Madeira; whereas, at Naples, there are ninety-seven, at Rome one hundred and seventeen, and at London one hundred and seventy-eight. The atmosphere at Madeira is generally dry and clear; the rain falling at particular seasons, chiefly in the autumn.

Madeira is nearly exempt from keen, cold winds; during the summer there is almost a constant prevalence of north-easterly winds, which keep the atmosphere in a temperate state. The sirocco is felt but two or three times during the season, seldom for more than three days, when it raises the thermometer to ninety degrees. At other periods the temperature is seldom above eighty degrees. Close, sultry days are little known, and there is neither smoke nor dust to impair the purity of the air. *Summer* is as favourable as the winter to pulmonitic invalids. During the *winter*, the weather is more or less damp; but fogs are never seen, and the thermometer at sunrise is seldom below fifty degrees. The *spring* is more trying, and requires caution in the invalid, as the winds are more frequent, and April and May are showery.

The island is very healthy; liable to no endemic diseases. Apoplexy and bowel complaints, particularly dysentery, are not unfre-

quent. Consumption is said by Dr GOURLAY to be prevalent among the natives; this, however, is denied by Dr HEINEKEN.

As to the influence of the climate of Madeira in consumptive cases, all observers unite in praise of its beneficial tendency; and Dr CLARK considers it as decidedly superior to any climate on the continent of Europe. It possesses also the great advantage of being an excellent summer as well as winter residence, so that the invalid can escape the danger of travelling during hot weather. Too much, however, must not be anticipated from the influence even of this highly favoured region in consumptive cases. Experience demonstrates that climate, the most favourable, can merely *prevent* the development of threatened or incipient phthisis, and has no influence in confirmed cases of the disease. Nothing, therefore, can be more cruel to the exhausted sufferer from pulmonary disease, than to deprive him of the comforts of home, and of all the sympathetic and valued attentions of friends and relatives, and to send him abroad under the delusive expectation of being benefited or cured by a change of climate. Neither is climate alone adequate to ensure the safety of those whose life is merely threatened by incipient consumption; the greatest caution, the strictest attention to suitable regimen, diet, exercise, clothing, and exposure are essentials to his recovery.

We have unconsciously been led by the great importance of the facts already enumerated, to occupy our limits by the first part of Dr CLARK's scientific and valuable publication. We must therefore omit noticing the second part, in which the author enters upon the consideration of the diseases to be benefited by climate, and with much minuteness and judgment indicates the kind of climate which best suits particular diseases, and the particular stages or circumstances of each disease. Minute and very essential directions are given to the invalid as to the climate to be selected, and as to his preparation for the journey, his travelling, his diet, medicines, clothing, &c. Full details are given as to the pathology, varieties and treatment of disorders of the digestive organs, of consumption, of disorders of the larynx, trachea and bronchia, of asthma, gout, and chronic rheumatism. The proper climate and regimen for delicate children and youth, for premature decay, and for disordered health from continued residence in hot climates, are pointed out with so much precision and judgment, that the thanks of the profession as well as of a large family of invalids and of anxious parents are due for the laborious and satisfactory work of Dr CLARK.

We cannot close our remarks without calling the attention of the profession to our own highly favoured country, whose almost boundless regions embrace every variety of soil and climate, portions of which unhappily are inimical to the health of the inhabitants, while other portions are blessed with the most salubrious atmosphere and the most fruitful soil. Minute investigations, such as have been made by Dr CLARK, are however much wanted to enable the physician to form even a probable opinion as to a proper location for invalids, especially for consumptive patients. At present we can only deal in general expressions, and say that the interior, the southern and western parts of the United States, are to be preferred to the sea coast, to the northern and eastern sections. In the first volume of this Journal will be found a very valuable paper from Dr HUNTT of Washington city, in which, by a statement of facts, and by a detail of authorities, he has endeavoured to prove that the sea coast is always unfavourable to consumptive individuals, and that warm situations in the interior of the southern and western states form the best residences for this most interesting class of patients. The bad effects of the atmosphere on the shores of the ocean arises, he thinks, from *a mixture of sea and land air*, which cannot there be avoided.

The general conclusions of Dr HUNTT are unquestionably correct, but we have our doubts whether some modifications of his opinions are not demanded, by the fact, that almost every situation which the most accurate observation has demonstrated as most favourable to consumptive patients is near the sea. We would mention particularly Nice, Pisa, Rome, Madeira, some portions of the West Indies, and St Augustine in East Florida. Many of the maritime places, also, which are inimical to such individuals, are so, not from the fact of their being near the sea, but from the prevalence of particular irritating winds, as occur at Montpellier, Marseilles and other places on the Mediterranean, subject to the irritating and dreaded mistral—a northerly wind blowing towards the sea.

It would seem, therefore, that cold combined with moisture is the state of atmosphere most injurious to the pulmonitic invalid, and that a climate to be salutary, must at least be moderately warm and dry, whatever other qualities may be requisite, and hence that a residence near the sea is not *necessarily* injurious. These views are somewhat confirmed by an interesting circular lately distributed by Dr ANDREW ANDERSON of St Augustine, Florida, in which the

author points out the peculiarities of the climate of that city, and recommends it as very favourable for phthisical patients.

St Augustine is situated in latitude thirty-five degrees north. The climate is very equable and agreeable during the whole year. The mean temperature in

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| January 1829, at 7, A.M. was | 53°, | at 2, P.M. 60°, | at 9, P.M. 54° |
| February - - - | 53° - | 60° - | 52° |
| March - - - | 53° - | 63° - | 54° |
| April - - - | 61° - | 74° - | 66° |

In the summer months the thermometer ranges from eighty to ninety degrees, but the heat is by no means so oppressive as the same thermometrical temperature would indicate in a more northern latitude, on account of the dryness, clearness, and consequent elasticity of the atmosphere. The trade wind sets in about ten, A.M., and blows steadily until daylight next morning. There are no marshes in the vicinity, and no fresh water vapours, and the frame is therefore generally braced, and the spirits in a state of excitement. So remarkable, indeed, and so well understood, says Dr Anderson, are the effects of the trade winds that it is familiarly styled among the inhabitants "the doctor." The nature of the soil assists the operation of these causes. Consisting of shells and sand, it very rapidly absorbs the rain, thus preventing the rise and accumulation of vapour, and the decomposition of vegetable matter. "When occasionally the air may be somewhat damp, it is so impregnated with salt as to be perfectly harmless. One fact is worthy of particular remark, as being to consumptive patients of great importance: this is, that there is no liability to taking cold in this climate; no ordinary exposure is unhealthy or dangerous. There are no sudden changes from heat to cold, nor from dry to damp. During the day the refreshing trade wind pours a steady current of air over the coast, and you retire to bed while this operation of nature is going on; instead of waking at night or in the morning and feeling the chill of the night damp, the weather has uniformly grown warmer and milder from the gradual withdrawal of the effect of the wind, which ceases entirely about daylight. In other climates, the night is almost invariably, and is always liable to be, colder and damper than the day. In St Augustine the reverse is the case, and thus the delicate lungs of a patient are relieved from one of the greatest sources of irritation."

ARTICLE VI.—*Pathological Observations, Part II. on Continued Fever, Ague, Tic Douloureux, Measles, Small Pox, and Dropsy; illustrated by cases noted in the year* 1828, *from hospital and private practice: with a preliminary Dissertation on the Institutes of Medicine; and an Appendix on the origin, prevention, and cure of organic diseases, especially of the viscera of the cranium, thorax, and abdomen; illustrated by cases and post mortem Examinations. By* WILLIAM STOKER, M.D. *&c. &c. Dublin,* 1829. 8*vo. pp.* 407.

The first part of the Pathological Observations of Dr STOKER having been upwards of four years in possession of the public, it would be useless to enter at this late period into an examination of its contents. We transcribe, however, from the preface, the following paragraph, as it presents in a few words the principal object the author had in view in the publication of the work.

"Impressed with an opinion that many diseases depend on changes which take place primarily in the fluids, as others do in the solids, I have been led to prepare the following work, the object of which is, to exhibit some of those facts, collected during an extensive experience for twenty-five years, on which that opinion is founded; and I indulge a hope, that by directing a more minute and general attention to the state of the blood and of the fluids derived from it, both in health and disease, than has been of late bestowed by medical observers, I shall promote the science of medicine, and further the improvement of the arts of healing."

The portion of the work now under review, is intended as a further exposition of the pathological views here referred to.

Occupied almost exclusively in tracing the morbid conditions of the various organs and tissues of the human system, pathologists have, of late years, almost entirely lost sight of those alterations which take place in the blood and other fluids, and the relation between such alterations and the phenomena of disease.

That the fluids are susceptible of morbid changes cannot be denied; observations and experiments without number incontestably establish the fact. We cannot conceive, however, that such an admission is in any manner incompatible with the idea of disease being seated chiefly, if not exclusively, in the solids. When we refer to physiology, we learn that the blood and other fluids are produced

by the action of the solids ; it follows, therefore, as a necessary consequence, that when the functions of the latter are disturbed, the fluids must also become changed from their normal or healthy condition. It is, indeed, one of the best established facts in pathology, that when an organ or tissue is affected with disease, the fluids it secretes are augmented or diminished in quantity, and invariably altered in their properties. In the same manner, the blood becomes changed from its healthy condition, when disease affects one or more of the principal organs by which hæmatosis is carried on.

That a morbid condition of the fluids may, also, become the cause of disease by acting upon the solids, we believe to be equally well demonstrated. We know that a vitiated condition of the bile, by irritating the intestines, will occasion diarrhœa, and that when, in consequence of disease of the heart or lungs, blood imperfectly arterialized is conveyed into the arteries of the brain, the functions of this organ become impeded, and the whole system suffers. But the physician who should in either case overlook the primary organic disease, and direct his attention solely to the morbid state of the bile or blood—who should attempt to correct, by his remedies, the latter, in place of removing, when practicable, the disease of the liver or heart, could lay but slight claim to the title of a rational and successful practitioner.

The supposition that disease, in any instance, consists simply in a depraved condition of the fluids, is perfectly gratuitous, and contradicted by every fact in physiology and pathology.

The latter idea Dr Stoker, it is true, utterly disclaims; the expressions he frequently employs are nevertheless such as would undoubtedly lead his readers to suppose, that in many instances the phenomena of disease are to be viewed, merely as the effect of a morbid condition of the blood and other fluids; the solids being not at all implicated. Some of these instances we shall have occasion to refer to in the course of this review.

As intimated on the title page, the present volume commences with what is termed a "Dissertation on the Institutes of Medicine," which occupies one hundred and thirty pages, printed in a very large type. But small as this space would appear to be for the discussion of such copious and important subjects as physiology, pathology and therapeutics, yet when we exclude the copious extracts the author has introduced from the works of Richerand and Bostock,

and the long and badly executed translation from a German reviewer, who appears to have been deeply enamoured with Dr STOKER's former volume, the number of pages occupied strictly by the dissertation will be found to fall much below the number indicated.

The section on physiology is devoted almost entirely to the author's views on hæmatosis, or rather his opinions as to the organs to which this process is confided. Of these organs, the liver is the one to which attention is principally directed. The following are the important functions ascribed to it by Dr STOKER:

"The opinion of the justly celebrated HEWSON, respecting the preparation of the red globules of the blood by the biliary system, (as it was called) for a long time appeared to me well founded, and the fair result of his judicious experiments; and though still I am persuaded that this is a portion of its office, yet further consideration induced me to believe that other very important uses in sanguification belong to these organs, in consequence of certain changes in the hydro-carbonous principle with which the blood comes charged to the vena portæ, thus fitted for the changes it has to undergo in the lungs. By effecting this change in the hydro-carbonous principle, too, I supposed that the liver might be deemed the chief secerning organ of fat, and perhaps of fibrin, with the assistance of the lungs, for the supply of which for the different parts of the body there is no appropriated apparatus, such as may be found for each of the other secretions, though apparently far less important to the maintenance of life. In this point of view, the hepatic system may also be deemed a chief source of animal heat, inasmuch as by favouring the mutual attraction and chemical cohesion between elementary parts of the adipofibrinous matter carried thither by the veins, a commencement of that intimate combination takes place, by which subsequently in the lesser, as well as in the greater circulation, caloric, in consequence of diminished capacity for it in the circulating mass, is evolved according to the exigences of life."

We cannot now pause to examine the arguments and a few imperfect experiments by which the author has attempted to establish the correctness of the foregoing opinions; how far they are borne out by facts derived from the pathology of the liver, we leave our readers to judge. That the liver performs in the animal economy an office of far greater importance than the mere secretion of a little bile, destined for the separation of the chyle from the chymous mass in the duodenum, is an opinion we have long entertained; it is one, also, in favour of which some of the most respectable physiologists might be cited.

The succeeding section of the dissertation is devoted to pathology.

Upon the publication of the first part of these observations, the work was received in the most favourable manner by the advocates of the humoral pathology, and the author was hailed as a valuable acquisition to their party: this appears, however, to have been less gratifying to the doctor than might have been anticipated; for notwithstanding his opposition to "modern pathology, as cultivated by the strict sect of solidists," whose superiority over others seems to him "to be confined chiefly to the degrees of certainty with which they can pronounce a fatal prognosis," he has a very great aversion to being ranked among the humoralists.

"It is not," he remarks in the introduction to the present section, "my design to prove that the commencement of diseased actions, or as aptly expressed by Dr Gerson, their *punctum saleins*, first takes place in the fluids; my leading object being always, as it is now, to show that morbid changes are effected in both solids and fluids, and that they are reciprocally affected by such changes; and it is, in my opinion, that the train of symptoms so excited, claim the physician's first attention."

That the author considers, however, the pathology of the fluids to be of paramount importance, and refers to their morbid condition nearly all the phenomena of disease, is evident from almost every page of his writings.

In reference to the morbid appearances discovered in the solids by autopsical examinations, upon which so much importance is placed by modern pathologists, as a means of determining the character and seat of disease, he holds the following language:

"Such coincidence between diseased action and altered structure, as are stated to be sometimes detected by those engaged in morbid anatomy, cannot be doubted, and they, therefore, deserve close attention in pathological investigation. But if, as just intimated, such coincidences be not constant, neither can the illustrations they afford of the theory of diseases extend beyond the symptoms always found to precede the disorganization or effusion, discovered after death. From very extensive opportunity for observation, I am of opinion that these symptoms of disorganization or effusion are very generally limited (and especially in febrile diseases) to the very last stages. And from similar observation, I am disposed still further to limit such symptoms, as essential characteristics of any period; symptoms, which, from their occurring in the last stages of diseases, have therefore been noted by the solidists, erroneously I think, as always indicative of disorganization or extravasation, but which I

have frequently found to arise from the morbid condition of the blood, while it still circulated in the sanguiferous system."

Our author then proceeds to state, that many of the symptoms, supposed to be indicative of diseased heart, of disorganization or effusion within the thoracic cavity, or of effusion on the brain, &c. have been frequently found, by him, to depend solely upon a morbid condition of the circulating mass.

Dr STOKER has, we conceive, been very unfortunate in his selection of a case to illustrate this fact, so far as it regards the lungs; for dissection in this instance, exhibited very extensive disorganization of one of these viscera, independent of an enlargement of the liver, which, by protruding the diaphragm upwards into the right cavity of the chest, contracted in no trifling degree the dimensions of the latter. But the fallacy frequently attendant upon a diagnosis, drawn solely from what are termed the physiological symptoms, has been recognized by almost every modern pathologist. It was this that induced AUENBRUGGER to resort to percussion, with the view of determining the physical condition of the thorax, and its contents during disease. It was this that gave rise to the invention of the stethoscope by LAENNEC, and more recently, of the pleximeter by PIORRY. Armed with these additional means of investigation, it is supposed by many, that the healthy or morbid condition of the thoracic organs, may be determined with a degree of accuracy, bordering upon absolute certainty. Dr STOKER is, however, of a very different opinion.

"I protest," he says, "against their modern invention of the stethoscope, at least so far as it has been employed by them (modern pathologists) merely for increasing the supposed number of organic diseases, because in every instance in which it is fallacious, all hopes that would otherwise tend to exertions for relief are laid aside."

The protest of our worthy author is truly somewhat out of season; the stethoscope has not only been invented, but the indications it is stated to afford by LAENNEC, have been confirmed by almost every physician who has resorted to the instrument sufficiently often to become acquainted with its use; in what manner it is calculated, in experienced hands, to augment the number of organic diseases, we confess we do not clearly see. But if Dr STOKER is able to prove that in many cases the indications derived from the stethoscope are fallacious, it is his duty undoubtedly to remove as speedily as possible the erroneous opinions entertained by so many of the profession, as to the value of the instrument. Until then, we must be allowed

to employ it ourselves, and so far as our influence extends, to recommend its employment to others.

As might be anticipated, from the important part Dr S. ascribes to a morbid alteration of the fluids in the production of disease, the appearances exhibited by the blood drawn during the latter, occupy a considerable share of his attention. In the preceding section, the author states that he has found "the distinctness of colour, and of the external characters which designate the various kinds of buffy coat on the blood," to indicate, with considerable certainty, functional derangement of either the hepatic or pulmonary system; these systems constituting the chief agents of hæmatosis.

"Thus, in cases of simple pneumonia, or where the lungs only are engaged, the coat exhibited on the blood drawn, is generally of a clear white, but when the tunic is tinged, it is with bright red, and does not exceed a few lines in thickness. The cupping of the surface, as it is called, is also most remarkable on such blood; a circumstance which arises probably from the great thinness and contractility of the film, drawing towards the centre the external margin of the less contractile crassamentum.

"In diabetic complaints, which there is so much reason to believe originate in imperfect digestion, or insufficient preparation of chyle, (and probably too from derangement in the chemical affinities engaged in these functions), when blood is drawn, it is often found covered over with a whitish milky fluid, the crassamentum itself being of a brighter colour than that of venous blood. In the simple forms of hepatic disease, on the other hand, the buffy covering on the blood drawn is generally of a more dusky white through its whole substance, than in pneumonia, and the external surface of it yellow; the buffy coat also occupies a larger proportion of the solid part of the blood than in pulmonary complaints. When, however, as not unfrequently happens, both the pulmonic and hepatic systems become equally engaged in the disease, such distinctions cease; but I have often seen them restored, in the same proportion as the diseased actions, affecting either of these systems, were found to vary in their relative urgency."

Our readers are all aware that this buffy coat, upon which so much dependence was formerly placed as a sign of inflammation, has been very generally referred to the slowness with which, in such cases, the blood coagulates, time being in this manner allowed for the precipitation of the red globules. This explanation Dr Stoker conceives to be incorrect. In the first part of his pathological observations, he has presented a table of the state of the blood drawn from seventy-two patients, the time required for its coagulation in

each instance, with the presence or absence of the buffy coat. This table shows very satisfactorily that the coagulation of the blood drawn may very slowly take place without the formation of any buffy coat, and on the contrary, that the latter may occur when coagulation is completed in a few minutes.

The occurrence of the buffy coat Dr STOKER attributes, either to a want of due preparation of the fluids "at the two chief sources of supply, and of the subsequent changes these fluids should undergo in their passage through the pulmonary, sanguiferous and hepatic systems, or to the injurious effects of diseased functions in the organs of sanguification." The doctor is of opinion, however, that inflammatory action may sometimes precede, or even induce, the functional derangement which impedes healthy sanguification, and occasions the preternatural condition of the blood indicated by the sizy surface.

We cannot conceive how, according to this system, is to be explained the appearance of a buffy coat on blood drawn in individuals in whom the pulmonary, hepatic and digestive functions present no indications whatever of disease. This is the case in most females during pregnancy, and in many cases of acute rheumatism.

"I have further to remark," says Dr STOKER, "that the buffy coat on the blood, though often, is not always, indicative of inflammatory or increased action in the system from whence it was drawn."

The evidence which is offered in proof of the latter statement is, however, far from satisfactory or conclusive. It is because the buffy coat is met with in dropsy and other diseases, where neither heat, pain, redness, nor quick pulse, "the ordinary signs of inflammation," preceded. Had our author consulted with care the writings of MORGAGNI and of later pathologists, he would have learned that inflammation of a very extensive and rapid character may occur, and not a symptom present itself during life to indicate its existence. This fact is so fully established by later observers, that we believe it is universally admitted.

We are not contending for the invariable connexion between sizy blood and inflammation; we merely wish to show that the symptoms which the doctor assumes as pathognomonic of the latter, are not invariably present. It is the want of an attention to this circumstance, from which many of what we conceive to be errors in his pathological views have arisen.

The following division of continued fevers, Dr STOKER conceives, from its applicability to practical purposes, to be, though not entirely unobjectionable, a very natural one. First, idiopathic fevers, comprehending those of spontaneous and contagious origin; second, inflammatory fevers; and lastly, those in which these two kinds coexist or are blended together.

"The characteristics of the first class of fevers, very generally, are sudden prostration of strength, failure of mental and bodily power, suspension or disorder of the secretions, irregular vascular and pulmonary action, producing both inequality in the distribution of blood, and of temperature in different parts of the system, and a uniform tendency to perform a certain succession of salutary or morbid changes in definite periods. The distinguishing features and local origin of the second class, or inflammatory fevers, are well marked and generally known; but when their symptoms mingle in epidemics with those of typhoid or idiopathic fevers, the importance is commensurate with the difficulty of ascertaining their relative degrees, so as safely to decide on the means to be employed."

The cause by which typhoid and idiopathic fevers are probably produced, Dr STOKER conceives to be certain changes induced in the vital fluids, by morbific matter, supplied to the lacteal or lymphatic system by the absorbents; which matter on its entrance into the thoracic duct is supposed to have the same sedative influence that poisons have on the pulmonary and sanguiferous systems. This view of their causes the author believes may assist in explaining the length of time, or latent period, between the application of contagion or infection, and the commencement of febrile paroxysms, or morbid actions.

Typhus and synochus fevers he pronounces to be, in their simple forms, diseases of debility throughout their whole course—the excitement so observable in their early stages being referrible to constitutional reaction.

As one evidence of the debility which is here assumed as an essential character of these fevers, the author presents a statement of the difference in the mortality of the disease when treated by blood-letting, and when this remedy was not employed.

"Among the patients treated by blood-letting, the proportion of deaths to recoveries was as 1 to 11 49-55ths, and among those treated according to the more ordinary methods, as 1 to 12 10-11ths, a proportion differing from the former in no small degree, and justifying the conclusion, that the treatment of fever by small and repeated general detractions of blood, is either of little efficacy, or injurious."

Dr Stoker admits that in some instances, upon an autopsical examination in typhus fever, he has observed "the same partial turgescence of vessels which dissectors report, and likewise signs of inflammatory action in various parts of the bodies of those who died of the fever; the former, however, by no means designated previous inflammation, and I could generally trace the commencement of inflammatory action, which led to the latter appearance, from local diseases that preceded or supervened on fever, and sometimes at late stages; but in several cases where I had witnessed the highest degree of febrile excitement before death, no such signs of turgescence, or of inflammation, were observable on dissection."

In support of this latter statement we are presented with extracts from a communication of Mr Kirby, and from the replies of Dr Macartney to queries proposed by Dr Barker, as contained in the second volume of the Transactions of the Irish College of Physicians.

How far Dr Stoker has been successful in doing away the force of that evidence which is derived from autopsical examinations in favour of the opinion which refers typhus, in common with every other fever, to local irritation or inflammation, we leave each of our readers to judge for himself.

In proof of the fact, that inflammation of the brain or its membranes, and occasionally of other organs, is very generally to be detected in the bodies of those who have died after labouring for some days under typhus fever, a very large amount of testimony might easily be adduced. We shall, however, content ourselves for the present, by citing one or two authorities, to whose statements it cannot be objected that they were biassed by the much criticised physiological doctrines.

Chirac describes an epidemic typhus which occurred at Rochefort in 1694, and was produced principally by famine. This epidemic bore a very great resemblance in its character to that of Ireland, from observations made during which most of the opinions of Dr Stoker appear to have been derived. In dissections, Chirac found the brain invariably engorged with blood, the liver similarly engorged, and in a state of inflammation. The stomach and intestines were red and inflamed, and in many subjects a sanious fluid was effused between the membranes of the brain and in the abdomen. Pringle, in his account of the typhus which he observed in Germany, Flanders and Scotland, gives suppuration of the brain, in-

flammation of its cortical substance, and effusion into the ventricles, inflammation of the small, and sphacelus of the large, intestines, as the most frequent appearances met with in his dissections. HILDENBRAND, whose views of the nature of typhus resemble in many points those of our author, acknowledges the frequent appearance after death of engorgement, effusion, and suppuration in the brain; while he states that inflammation of the intestines is always present to a greater or less extent, which inflammation, he conceives, should be ranked among the causes of death, especially when it has occasioned gangrene. It is in vain to say that such morbid appearances are merely accidental, and not essentially connected with the symptoms under which the patient laboured during life.

With these remarks we close our notice of the preliminary dissertation, the last section of which is devoted to therapeutics. This brings us to that portion of the work to which the title, Pathological Observations, more particularly refers. It consists of a medical report on the Cork street Fever Hospital for the year 1828, of which institution the author is one of the attending physicians.

The report opens with a very interesting view of the connexion which was exhibited during the late epidemics in Ireland, between disease and crime; both being traceable to a common cause—the distressed condition of the labouring classes in that country.

"The sources of employment" remarks Dr STOKER "have been either entirely stopped up, or most pitiably narrowed, and the miserable artificer has been obliged, too generally, to support a precarious existence upon occasional charity, or some occupation with which all his habits and inclinations are perhaps at variance."

We cannot, however, on the present occasion, follow the author in his details upon this important subject.

A considerable portion of the disease which for years past has prevailed in Ireland, the author refers simply to extreme misery. This was particularly the case, we are told, during the years 1818 and 1826. In these cases the symptoms consisted chiefly in a pallid and anxious countenance, a chilled or parched skin, keen sense of hunger, and extreme dejection of spirits. This form of the disease was immediately and most effectually relieved by nourishment, a dry bed and a comfortable apartment.

In other cases, however, the individuals thus predisposed, were, it is presumed, exposed either to contagion or malaria, and symp-

toms then succeeded "such as frequently characterise the fevers produced by either of these morbific causes."

Dr Stoker, in describing the wretched condition of that class of society to which the disease was almost exclusively confined, makes use of the following language.

"The habitation of the miserable weaver became a receptacle of *filth* and confusion; his hearth cheerless; his visitor the *cold* and *wet* which made their way through the ill-saved roof; his helpless infants famishing around him; and thus learning to regard all the energies of his manhood as useless, and his loom but lumber, he often sunk down in *mental agony* and bodily exhaustion. In such a plight, it may easily be imagined, recourse was had to any and every means: every *vice* was resorted to which could either intoxicate affliction, or destroy sensibility."

In individuals exposed under such circumstances, it is somewhat surprising that our author should have thought it necessary to resort to so hypothetical an agent as contagion to account for the production of disease.

We are presented, next, with some very general remarks on the nature of the fever which has prevailed for the last twenty years in that unhappy country, as well as the causes which have given rise to a difference in its character at particular periods. Every thing is explained upon the old doctrine of idiopathic fever, as it is termed, originating either from contagion or from marsh miasmata; the greater or less susceptibility of the patients to be acted upon by these causes, and the supposed essential difference in the nature and phenomena of the disease, according as it has been produced from one or other of the above sources. Of the existence of contagion during the epidemics referred to, the present volume contains, however, not the least portion of evidence.

A contrast between the phenomena of typhoid and inflammatory fever follows. The only part of this we can spare room to notice, is the difference in the appearance of the blood drawn in the two diseases, upon which Dr Stoker insists so much as a means of diagnosis.

"In the highest degree of febrile excitation," he remarks, "at the commencement of these fevers, (typhus), unless where they are combined with inflammation, the blood drawn is seldom buffed. Where this combination of inflammatory and typhoid fever exists, the buffy coat does, indeed, in most cases appear, especially in those of sthenic habits, and in the vernal season, but never so dense and

colourless as in pure inflammation. Moreover, the buffy coat appears almost exclusively upon the first cup. But, in successive bleedings, in epidemic and inflammatory fever, the difference in the surfaces of the blood becomes much more decided and remarkable. The buffy coat in the former case more suddenly disappears, and the adhesiveness characteristic of inflammation becomes so much relaxed, that the crassamentum either dissolves or falls in fragments to the bottom, tinging the serum with its colour, which is sometimes of a dark brown, at others of a greenish hue."

Besides these appearances of the blood, the author refers to others which it presents before and after crises, which he conceives will assist in distinguishing the different changes which occur in the course of the disease. For these, and the indications to be drawn from the blood extracted in relation to the seat of local diseases, &c. we must refer our readers to the work itself.

With respect to the author's success in the treatment of fever, he states, that the average mortality among those treated by him, during three months of the year 1828, was one death to 51 5-6ths recoveries. If, however, the number of those who died of phthisis, chronic dysentery, and dropsy were subtracted, the average mortality in cases of simple continued fever would be far less.

The report proceeds next to the consideration of the individual forms of disease which fell under Dr Stoker's notice. The first of these he terms continued inflammatory fever; the phenomena and treatment of which are exemplified by three cases, viz. one of gastritis, one of hepatitis, and one of pneumonia, all of which terminated favourably under a very appropriate treatment.

In the ratio symptomatum of this class of fevers—those from local inflammation, the author refers almost every thing to a morbid or sizy condition of the blood. In regard to the treatment, we are told that bleeding is demanded to diminish the bulk and momentum of the circulating mass, as well as "the preternatural cohesion of the sizy blood."

Previously to entering upon the consideration of typhoid or adynamic fever, we are presented with the detail of three cases of epidemic diseases in horses, with the examination, after death, of two of them. These are recorded with the view of pointing out the connexion between the morbid changes in the blood, the symptoms during life, and the appearances found in the dead body. We cannot pause to examine them.

The first case of typhus is one of congestion of the brain with

paralysis, the history of which presents a strong exemplification of the erroneous treatment to which the theory of typhus adopted by our author will very generally lead. Suffice it to say that the patient in this case was admitted into the hospital on the 11th of April 1828, and after being *twice cured* of the typhus fever by the administration of wine and a moderate diet, the paralysis continued unabated until January 1829, when she died of apoplexy!

We must omit any notice of the various cases which our author has detailed with the view of exemplifying the several varieties of typhus.

The causes to which the different forms of typhus fever are referred by Dr Stoker, consist in supposed morbid changes in the blood, connected with failure in its vitality, and derangement of the "organic affinities that subtend to vital power." The prostration of the vital and animal powers, being proportioned in each case to the impurity of the air, or the virulence of the contagion to which the patient has been exposed.

In the treatment of what he terms simple typhus, the author rejects entirely the use of blood-letting, either general or topical. His remedies are confined to emetics, blisters, aperients, yeast, wine, tepid or cold affusion, and the Peruvian bark.

In mixed cases, however, he resorts, in addition to cleanliness, ventilation and a cool regimen, to plentiful dilution, purgatives, topical bleeding and the antimonial or James's powders.

"Many other remedies," he observes, "may, no doubt, be occasionally employed with advantage for the relief of the symptoms which accompany peculiar forms of epidemics, or such as are produced by extraordinary idiosyncrasies." But the foregoing he believes to be those more frequently applicable than any others, in the treatment of the ordinary indigenous fevers of Ireland.

In the opinion of Dr Stoker, the employment of purgatives is very generally indicated in fever. He always endeavours, previously to the administration of any other remedy, to produce due freedom of the bowels, by remedies varied according to the urgency of each case. In a large majority of instances, he believes that by this practice the necessity for other remedies may be entirely superseded. Beyond, however, the extent of merely unloading the bowels and preventing costiveness, the author pronounces purgatives to be injurious.

He speaks of the decided efficacy of enemata, especially when composed of castor oil and turpentine, for the relief of retention or suppression of urine, and of obstinate vomiting; since his employ-

ment of the latter injection, he states that he has seldom had occasion to resort to the catheter.

In the following sentence we have a summary of the author's views upon the subject of local blood-letting in cases of typhus.

"For the relief of the symptoms of unequal distribution of blood in typhoid fevers, affecting the brain or other organs of less importance to life, I find leeches, applied as near as possible to the part engorged, to afford very general relief, particularly when assisted by the removal of such obstructions to the equal distribution of the blood, as the accumulation of impacted fæces in the intestinal canal, or the congestion of dark venous blood in the hepatic and mesenteric vessels. When the head is particularly engorged, cold ablution of it, and warm fomentation of the feet, greatly assist the efficacy of leeches to the temples; but for some years past, finding the congestion of blood in the hepatic and mesenteric systems so frequent an occurrence in typhoid fevers, and so often, by metastasis to other parts, to be the cause of serous and sanguineous effusions, I have of late years, in many cases, applied leeches to the verge of the anus; and of their efficacy in that way, I can report most favourably."

For delirium and other symptoms of derangement in the sensorial functions, connected with determination of blood to the head, or turgescence, the tartarized antimony in solution, so as to excite nausea is, in the opinion of Dr Stoker, one of the most effectual remedies. It is also, he remarks, the remedy chiefly to be relied on in mixed cases of fever, especially where any doubt remains of the safety of bleeding for the relief of inflammatory affections.

In the commencement of mixed cases of fever, where evacuants have been carried as far as admissible; as well as in the advanced stages of "slow fever," when an inflammatory action of the vessels of some part occurs, indicated by a parched skin and quick pulse, the doctor declares there is no remedy superior in efficacy to the James's powders. The dose he directs is three grains, three times a day; but in cases of violent delirium, or tendency to mania, the stomach being generally very torpid, it will bear, we are told, eight or ten times the ordinary quantity. In such cases, however, he conceives a solution of tartar emetic may often be advantageously substituted.

"In those forms of fever in which the efforts of nature towards recovery can be observed on critical days, I still find," observes Dr Stoker, "that these natural efforts are greatly promoted by administering an increased dose of James's powders, at the hour of rest."

Of yeast, as a remedy in typhus fever, the author speaks in terms of the most unqualified recommendation, founding his opinion upon an experience of fifteen years, during which he has employed the remedy in nearly ten thousand cases, and always with good effects. It is described as moderately laxative, often superseding repeated doses of purgatives. When not sufficiently so, tincture of jalap is sometimes combined with it; but when the bowels are too free, a few drops of tincture of opium are to be added to each dose.

"Thus administered," says the author, "it appears to me to correct the morbid contents of the alimentary canal, and consequently the symptoms of putrescence; petechiæ, and black loaded tongue, will be found, I think, more effectually remedied by it than by any other drug; accordingly I have often substituted it for bark and wine, when these remedies could not be employed on account of the complication of inflammatory symptoms, and I have conjoined it with these remedies, when there was no such counter-indication."

The dose which he directs is, two table spoonsful, repeated every third hour, generally in combination with an equal quantity of camphor mixture. When given in enema, three times the above quantity is to be employed. Dr Stoker adds, that the most efficacious remedies he has met with in obstinate cases of tympany, accompanying typhus fever, are enemata of yeast, and assafœtida.

We come now to the author's opinions upon several of the most disputed questions in therapeutics, viz. the propriety of stimulants in the treatment of fevers, the cases in which the latter are indispensable, and the proper period in which they should be commenced with. Mistakes in reference to one or other of these particulars was the cause, we are persuaded, of no small proportion of the mortality attendant upon fevers, at a period not very remote from the present. Though the author is far more restrained in the employment of these remedies than we should have anticipated from the tendency of his pathological views, he nevertheless, in our opinion, frequently resorts to wine, the only stimulant he appears to think necessary, in cases in which it cannot fail to be prejudicial, and where its use ought entirely to be dispensed with. We allude particularly to those instances in which the presence of irritation or of congestion and inflammation of the brain is indicated by the symptoms.

"Wine given too early," says Dr Stoker, "even in the contagious fevers of this country, seems often to be directly injurious, by exciting the already too violent action of the vascular system, and indirectly so by exhausting constitutional excitability."

A rational treatment of the state of fever here referred to would,

we are confident from our own experience in the management of typhus, supersede in almost every case the necessity for wine or any other stimulant in the progress of the disease.

Wine, we are informed, was rarely directed in the hospital to which this report principally refers, in any of the cases which terminated before the tenth day, and which constituted the largest proportion; and in more protracted forms we are told the quantity given has been gradually lessening since the opening of the hospital. As to the precise measure of wine proper to be administered, the author refers to the rules presented by Dr PHILIP in his Treatise on Fever.

In cases decidedly typhoid, however, especially when they have originated from contagion, Dr STOKER believes the early administration of small quantities of wine, largely diluted with water, to be frequently advantageous. The use of the liquor in these cases is not, however, to preclude whatever evacuations may be deemed necessary.

To our utter surprise the author states, that in many instances he has found the administration of wine to be highly beneficial in cases "where *severe* affections of the head arise, which mark a *great determination* of blood to that organ, or even a *tendency to effusion within the cranium.*" We should as soon think of recommending wine *in a case of ordinary* apoplexy as under the circumstances here described; we should, indeed, anticipate pretty much the same results in the one instance as in the other.

In the protracted stages of fever, even when the local abstraction of blood is indicated for the relief of local obstruction or turgescence, the necessity for such evacuation should not, according to our author, prevent the administration of wine proportionate to the general debility that may co-exist.

We find nothing peculiar in the opinions of Dr STOKER concerning the employment of emetics and blisters as remedies in fever; they differ but little from those of the greater proportion of British practitioners; we cannot, therefore, spare room for their consideration; neither can we follow our author in his notice of tepid and cold affusion. The latter he appears not to have found very beneficial, which circumstance, he supposes, may have arisen from a very great diminution in the vital powers and temperature, forming of late years a remarkable feature in the epidemic fevers observed by him.

The account of typhus fever is followed by histories of the several

cases. In the only one of these in which an examination was made after death, extensive disease of the brain and of the thoracic viscera was discovered. We regret that our limits will not allow us to present an abstract of this interesting observation.

Our notices of the remaining contents of the volume will necessarily be very brief.

Dr Stoker mentions the prevalence of *tic douloureux*, as well as other forms of *neuralgia*, which partook much of the character and nature of intermittents, and were benefited or cured by similar treatment. He also met with several cases of gastrodynia and hemicrania under an intermittent form, which were not relieved by bleeding, either general or local, purgatives, or even calomel carried to the extent of salivation, aided by anodynes to moderate pain during the paroxysms; and the sulphate of quina and other tonics appeared to increase their symptoms, until emetics were first administered, after which anodynes, especially cicuta or hyoscyamus, either alone or combined with opium, given during the paroxysms, and the sulphate of quinine in the intervals, seldom failed to afford relief.

Upon the subject of small pox the author makes the following remark, which is certainly not in accordance with general observation, viz. "that the contagion from small pox, after vaccination, as well as its infection by the introduction of matter, is followed by a modified disease in persons not previously vaccinated or inoculated with small pox."

The appendix, which treats of "the origin, prevention, and cure of organic diseases," is composed of a number of very interesting cases, related in order to prove that organic disease—in other words, extensive disorganization and alteration of structure occurring in the several cavities—commences in a morbid condition of the blood. To those who desire to make themselves acquainted with the author's views, these cases must be studied as they stand recorded in the work before us.

We have now concluded a very brief examination of the work of Dr Stoker. It must be evident to our readers that what the author chiefly aims at is a revival of the humoral pathology, modified, it is true, in many particulars, and divested of a few of its more glaring absurdities. It is, nevertheless, in our opinion, still liable to the leading objections which have from time to time been so successfully urged against the original hypothesis.

ARTICLE VII.—*A Manual of Materia Medica and Pharmacy, comprising a concise description of the Articles used in Medicine, their Physical and Chemical Properties, the Botanical Characters of the Medicinal Plants, and the Formulæ for the Principal Officinal Preparations of the American, Parisian, London, Dublin, Edinburgh, &c. Pharmacopœiæ. By* H. M. EDWARDS, M.D. *and* P. VAVASSEUR, M.D. *Paris*, 1828. *Translated from the French, with numerous Additions and Corrections, and adapted to the Practice of Medicine and the Art of Pharmacy in the United States, by* JOSEPH TOGNO, M.D. *and* E. DURAND. *Philadelphia. Carey, Lea, and Carey.* 1829. *Pp.* 523.

Drs EDWARDS and VAVASSEUR have acquitted themselves in a very respectable manner in the composition of this Manual of Materia Medica. From a hasty perusal which we have given it, we have formed the opinion that the performance furnishes a concise, but very fair view of the present advanced state of the science of materia medica.

The work opens with some general considerations in regard to the properties of medicines, and the theory of their operation on the animal economy. These topics are embraced in the first chapter. The remaining chapters treat of the following subjects.

Chap. II. Caustic substances.

Chap. III. Epispastics and rubefacients, whether animal or vegetable.

Chap. IV. Astringent substances, discussed under two heads, according as they are derived from the animal or vegetable kingdom.

Chap. V. Tonic substances, whether mineral, vegetable, or animal.

Chap. VI. General stimulants, whether mineral or vegetable.

Chap. VII. Special stimulants, subdivided, according to the particular organ or part most affected, into, 1. Diuretics; 2. Articles acting on the skin; 3. Articles acting on the organs of generation; 4. Articles acting specially on certain glands; and 5. Articles acting specially on the nervous system, whether excitants of the nerves properly so called, or antispasmodics.

Chap. VIII. Narcotic substances.

Chap. IX. Emetic substances, whether mineral or vegetable.

Chap. X. Purgatives.

Chap. XI. Laxatives.
Chap. XII. Refrigerants.
Chap. XIII. Demulcents.
Chap. XIV. Anthelmintics.

This enumeration of chapters will give a good idea of the classification of the subject adopted, and the scope of the work. In the catalogue of the individual articles treated of, we notice the names of most of the medicines which the progress of science has added to the list of materia medica within the last few years; such as quinia and cinchonia, and their combinations; urea; iodine and its compounds; the cyanurets of mercury, potassium, and zinc; preparations of gold and platinum; phosphorus; nux vomica; St Ignatius's bean; strychnia and brucia; morphia and its combinations; narcotin, &c. &c.

In the introductory chapter, the authors make the following just remarks in relation to the curious fact, that the same natural family of plants is often endowed with analogous medicinal properties, which may be explained by the similarity of their organization determining the formation of similar principles. We avail ourselves, as we shall do in all our extracts, of the translation of the editors.

"The family *Cruciferæ* contains an acrid and volatile oil, to which it owes its stimulating properties, and which is exhibited with success in the treatment of scorbutic affections, and in atonic diseases generally. The family *Labiatæ* contains, besides an aromatic essential oil, an extractive bitter principle; and therefore these plants are at the same time tonic and stimulating." "The same analogy exists between the plants of the family *Umbellatæ*. The roots of all the *Violaceæ* have more or less an emetic property; the *Solanaceæ* are narcotic; the *Euphorbiaceæ*, acrid and purgative. All the *Coniferæ* contain a resinous juice which gives them peculiar properties. However, amongst the *Rubiaceæ*, most of which are eminently tonic, we find the ipecacuanha, which is essentially an emetic." Page 23.

In the enumeration of elementary substances, the authors have omitted bromine and fluorine, which, with the fifty they have mentioned, and the basis of the new earth thorina, lately discovered by Berzelius, will make the total number of simple bodies fifty-three. Speaking of salts, they allude to the law, which they call remarkable, of the constant proportion between the oxygen of the acid and that of the base in the different classes of these compounds. The fact is, that this subject has been somewhat mystified by Berzelius, who has insisted most upon this supposed law. Admitting it to be

a law of chemical combination, it will be found, when examined, not in the least remarkable, and true only under certain circumstances. Thus the law alleges, for example, that in the neutral sulphates, the oxygen in the acid is three times the amount of the oxygen in the base. Now this is true, where the base is a protoxide, that is, contains *one atom* of oxygen: and for this plain reason, that sulphuric acid contains *three atoms* of oxygen. The general fact in regard to the sulphates amounts to this;—they consist of an atom of some base, and an atom of sulphuric acid; but the atom of the base contains one atom of oxygen, and the atom of sulphuric acid, three atoms of oxygen. Can it be viewed then as remarkable, that in the sulphates of protoxides, the acid contains exactly three times as much oxygen as the base; or would it not rather be remarkable if it were otherwise? Is it not evident in the example given, that the peculiar ratio of the oxygen of the acid to the oxygen of the base follows as a corollary from the general law of atomic combination?

Again; nitric acid contains five atoms of oxygen. Hence, in every nitrate of a protoxide, there is five times as much oxygen in the acid as in the base. Carbonic acid contains two atoms of oxygen, and hence in all carbonates, consisting of one atom of acid to one of protoxide, there must be twice as much oxygen in the acid as in the base. These fixed proportions, therefore, between the oxygen in the acid and in the base of salts, do not constitute a law, but are merely incidental facts, growing out of the general laws of chemical combination. Dr Turner, in his Elements of Chemistry, has put this subject in a very clear light, and the reader who wishes further information in relation to it, is referred to that work.

There are two principal sets of carbonates known to chemistry; one set containing one atom of acid to one of base; the other, two atoms of acid to one of base. The best usage is to call the first set carbonates simply, and not subcarbonates; for though they are not neutral to *test paper*, they are neutral in *composition*, that is, contain an atom of acid to an atom of base. The other set are appropriately called bicarbonates. The authors of the work before us have not adopted this nomenclature. They call the first set of carbonates, *sub*carbonates, and the other set, *neutral* carbonates. Suppose we concede for a moment that any salt which has an alkaline reaction should be called a sub-salt, and consequently, that subcarbonate of potassa is a proper term to be applied to the salt

of tartar, we shall then insist that the bicarbonate of potassa should be called subcarbonate also; for it likewise exhibits an alkaline reaction with the usual tests. Here then we are met by this difficulty, that certain acids are so weak, that they are incapable of neutralizing strong bases, and hence, in every saline combination into which they enter, they form sub-salts, if the point be determined by test paper. Borax is a salt of this kind; boracic is a weak acid, and soda a strong base; and this salt is a *bi*borate in composition, though a *sub*borate by test paper. We, therefore, think the authors ought to have adopted the term carbonate for subcarbonate, and bicarbonate for neutral carbonate.

The tables which the authors have given in proof of the so called remarkable law, are not perspicuous; as they give the composition of the salts enumerated, by assuming the acids at the constant quantity of 100, instead of stating the proportions in the proportional or atomic numbers. An inaccuracy occurs in the quantity of potassa given as combining with 100 of carbonic acid in the bicarbonate of that base,—209 being printed for 109.

The authors make the following good remarks on absorption.

It has been ascertained, "every thing being equal, that absorption is the less active, in proportion as the mass of the liquids actually in circulation is greater, and *vice versa*."

"As to the influence that the nature of remedies has on their absorption, we may state as a general proposition, that the more readily remedies are soluble in water, the more easily they penetrate into the circulation. Dr Segalas has demonstrated that liquids are equally absorbed, whatever may be their nature, provided they are miscible with the blood, and possess no corrosive action upon our organs. Thus, *cæteris paribus*, water, diluted alcohol, a watery solution of narcotic poisons, are absorbed with the same rapidity; whilst the substances not miscible with the blood are absorbed with the greatest difficulty, even when they are in a liquid state. In fact, oil, injected into the peritoneal cavity of a dog, is there found even after the lapse of several days, without having undergone any sensible diminution as to its quantity, whilst water disappears from it in a few minutes. This phenomenon seems to depend upon a mechanical cause, and may be owing to the physical properties of these substances; for Dr Magendie has proved, that when oil is injected into the veins, it stops in the capillary vessels, which it obstructs, and thus prevents the circulation from going on. It is not, therefore, astonishing that oil should penetrate through the tissues with the greatest difficulty. The substances which, by their chemical action, produce a disorganization of the parts with which

they are in contact, are not absorbed; which must be ascribed to the obstacles this phenomenon itself opposes to the action of imbibition." Page 30.

The important bearing which the principles contained in the above extract, have on the treatment of dropsies, and on the endermic application of remedies, is so obvious as to require no explanatory comment.

Under the head of chlorine, we find the following remarks:

"Applied to the skin by means of a peculiar apparatus proposed by Dr W. WALLACE, either pure or mixed with steam, it possesses a very energetic stimulant action. Under the influence of this application, the skin, after a few minutes, becomes the seat of a very lively pricking, of prurigo, and of an abundant perspiration, which continues for some time after coming out of the bath. The body is afterwards covered with very small pustules, more or less confluent, and if the application of chlorine be continued for too long a time, it produces a violent pain, redness, and all the symptoms of erysipelas. As to its general action, Dr WALLACE thinks that it acts more especially on the liver, of which it increases the secretions." Page 164.

So potent an agent as chlorine is not employed as much as it ought to be. The best forms for using it are in combination either with lime or soda.

The composition of chloride of soda, or LABARRAQUE's disinfecting liquid, is matter of discussion among chemists. The preparation has been examined, among others, by Mr PHILLIPS and Mr FARADAY. The latter considers the active ingredient to be chloride of soda, considerably modified, however, by the presence of carbonate of soda. Mr FARADAY obtained the liquid by following exactly the directions of LABARRAQUE. This process consists in passing a current of chlorine through a solution of carbonate of soda; and, according to Mr FARADAY, if the precise proportions of the ingredients indicated by LABARRAQUE are followed, not a particle of carbonic acid is evolved, though this is not the case if an excess of chlorine is used. From this circumstance, Dr TURNER suggests that probably the liquid is a compound of chloride of soda, with bicarbonate of soda. The process of PAYEN, which is given by the authors, and which is by double decomposition between chloride of lime and carbonate of soda, is characterized by Dr TURNER as cheap and easy, and one which affords a uniform preparation.

Our space will not allow us to give a fuller account of the work

of Messrs Edwards and Vavasseur. The translation is generally good, though occasionally defective. At page 26 it is stated, that "salts may be neutral, although they contain a small excess either of acid or of base." This is an inaccurate translation of the following words in the original: "Les sels peuvent être neutres, avec excès d'acide ou avec excès de base," which may be rendered as follows: "salts may either be neutral, or contain an excess of acid or of base." At page 28 we have this sentence: "Thus, mercury and all its preparations produce a similar effect, but the intensity of which varies according to their degree of solubility, &c.; but, on the contrary, the activity of the remedial substance depends upon its chemical action on the tissues with which it is in contact, and this activity may be completely destroyed by the effect of chemical combination." The latter part of this sentence conveys no idea; it ought to read thus: "but, on the contrary, when the activity of a remedial substance depends upon its chemical action on the tissues with which it is in contact, this activity may be completely destroyed by the effect of chemical combination." At page 44 the measures adopted in the London and American Pharmacopœias, are attributed also to the Edinburgh and Dublin colleges, although these colleges have adopted no measures of capacity. Speaking of carbonization at page 49, it is stated to be an operation similar to calcination, "but carried to a *greater* extent," for "less extent." At page 56, it is given as a rule that we must never exhibit in the form of pills, substances, "the consistence of which is such as not to require a large quantity of inert powder to form a pilulary mass." The word "not" here, is evidently redundant. At page 346, hydrocyanic acid is characterized as having a "fresh taste at first," instead of "cooling taste." The word "fraîche" does not mean *fresh*, as applied to this acid.

These inaccuracies, as well as some of idiom and nomenclature, are not of sufficient importance to be weighed against the general merits of the translation, and the value of the numerous additions which have been made by the American editors. No doubt, in a second edition, they will have it in their power to make many emendations. In the mean time, we congratulate the American medical public, on the benefit which is likely to accrue to the profession, from the labours of the translators, in having naturalized amongst us, the valuable manual of Drs Edwards and Vavasseur.

# Original Communications.

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ARTICLE VIII.—*A sketch of the Variolous Epidemic which prevailed at Wilmington, Delaware, in the years* 1827 *and* 1828. *By* HENRY GIBBONS, M.D.

The imperfect state of medical science, in regard to the influence of climate on epidemic diseases, renders some account of the weather during their prevalence a very important part of their history. That which I am about to give will, therefore, be preceded by some remarks on this subject, and also a sketch of former and co-existing complaints.

From the year 1820 to 1827 there was, with few exceptions, a series of dry summers, and mild open winters. It is the general opinion of the older class of inhabitants, that less rain fell at Wilmington during that time, especially in the warm season, than in any other period of seven years within their recollection. Springs and wells, that had never been known to fail, became dry. In 1824, 25, and 26, the epidemic bilious, remittent and intermittent fevers were most rife, and prevailed in elevated and dry as well as in low and marshy situations. The year 1827 was more healthy than common, especially in the fall, when few cases of autumnal fever occurred. Varicella, the usual precursor of small pox, did not make its appearance; or, if at all, not until the varioloid had become epidemic in the winter of 1827–8. In the course of this winter there was nothing remarkable in the concomitant diseases, except that in a large proportion of cases, eruptions on the skin attended; a fact still more strikingly observed during the prevalence of measles on the approach of spring. Throughout the summer of 1828, the alimentary canal was the chief seat of disease; diarrhœa and cholera being very prevalent. Towards the end of the sixth month, (June), when varioloid was most extensive, dysentery, a

disease scarcely known in Wilmington for a considerable number of years, was not uncommon for a time; but it soon disappeared. The ensuing autumn was attended with the ordinary fevers of that season.

The extension of the epidemic in the summer of 1828, (after having once subsided,) even to a greater degree than in the previous winter, and the extreme heat of the weather at the same time, are circumstances worthy of attention. The disease was most predominant about the close of the sixth, (June), and the beginning of the seventh month, (July). By referring to the Meteorological Journal for these months, which I have thought best to furnish in full, it will be seen that the weather at this time was excessively warm. The mean temperature of the former exceeded by three degrees the average mean for that month. The temperature did not excel the ordinary mean in the seventh month, and the eighth, (August), was one degree colder than usual, and also more dry. It was during the cool, dry weather of the latter month that the disease subsided. Previously, throughout the period of its utmost virulence, there were several moderate rains, though the atmosphere did not appear remarkably moist. It is worthy of note, that the damp, easterly winds of the first week in the eighth month, which are generally considered favourable to the spread of epidemics, exerted no apparent effect in preventing the decline of the disease in the present case.

The mean monthly temperature given in the first table, is calculated from two daily observations of Fahrenheit's thermometer; one taken at sunrise, the other at the warmest period of the day. The observations for the second table were taken in the same way. Table third gives the number of clear and cloudy days, and those on which rain fell; the annual depth of rain; and also the number of days that were accompanied with particular winds. The winds I have divided into three classes: the first of which, from north and north-west, are generally attended with dry and cold weather; the second, from the north-east to south-east, mostly damp; the third, from south to west, warm, and also frequently accompanied with rain, especially in winter.

## TABLE I.

| Month. | 1826. Extremes. | | Mean. | 1827. Extremes. | | Mean. | 1828. Extremes. | | Mean. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 5° | 56° | 31°.19 | 5° | 46° | 28°.13 | 10° | 57° | 36°.43 |
| 2 | 6 | 65 | 35.97 | 14 | 55 | 34.74 | 17 | 63 | 41.58 |
| 3 | 24 | 73 | 43.32 | 20 | 70 | 44.04 | 19 | 69 | 43.64 |
| 4 | 23 | 75 | 46.66 | 35 | 72 | 55.51 | 28 | 65 | 45.91 |
| 5 | 47 | 87 | 67.20 | 41 | 77 | 60.48 | 44 | 80 | 61.87 |
| 6 | 60 | 91 | 72.28 | 45 | 82 | 67.36 | 55 | 90 | 73.17 |
| 7 | 58 | 88 | 73.86 | 57 | 89 | 74.52 | 57 | 92 | 74.25 |
| 8 | 60 | 91 | 73.91 | 52 | 93 | 73.70 | 55 | 92 | 72.91 |
| 9 | 45 | 85 | 67.08 | 43 | 84 | 64.43 | 50 | 91 | 63.83 |
| 10 | 33 | 77 | 56.91 | 32 | 72 | 56.17 | 27 | 70 | 50.48 |
| 11 | 27 | 65 | 44.50 | 25 | 71 | 41.28 | 27 | 64 | 45.09 |
| 12 | 3 | 60 | 33.91 | 17 | 62 | 35.90 | 15 | 59 | 37.41 |
| Mean. | | | 53.90 | | | 53.02 | | | 53.88 |

## TABLE II.

| Days. | 6mo. (June). AM. | PM. | Wind. | | 7mo. (July). AM. | PM. | Wind. | | 8mo. (August). AM. | PM. | Wind. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 55° | 70° | N.W. | clear. | 76° | 82° | S.W. | rain. | 69° | 88° | S.W. | clear, |
| 2 | 56 | 76 | S.W. | clear. | 66 | 76 | S.W. | clear. | 73 | 84 | N.W. | hazy. |
| 3 | 66 | 70 | S.E. | hazy. | 60 | 74 | N.W. | clear. | 69 | 79 | N.E. | rain. |
| 4 | 63 | 80 | S.W. | foggy. | 60 | 75 | N.W. | clear. | 65 | 67 | N.E. | rain. |
| 5 | 68 | 84 | N.W. | clear. | 60 | 76 | N. | clear. | 62 | 67 | N.E. | cloudy. |
| 6 | 64 | 83 | W.N. | clear. | 64 | 83 | W. | clear. | 62 | 74 | N.E. | cloudy. |
| 7 | 67 | 85 | S.W. | cloudy. | 64 | 84 | W. | clear. | 65 | 78 | N.E. | cloudy. |
| 8 | 64 | 81 | W. | clear. | 76 | 84 | S.E. | hazy. | 64 | 86 | N.W. | clear. |
| 9 | 57 | 82 | W. | clear. | 64 | 74 | S.W. | hazy. | 68 | 83 | N.W. | clear. |
| 10 | 62 | 76 | S. | cloudy. | 61 | 76 | S.W. | clear. | 73 | 86 | S.W. | rain. |
| 11 | 59 | 78 | E. | cloudy. | 66 | 80 | S.W. | clear. | 73 | 86 | S.W. | rain. |
| 12 | 68 | 73 | S.E. | foggy. | 57 | 78 | N. | clear. | 68 | 81 | N.W. | clear. |
| 13 | 70 | 78 | S.W. | rain. | 70 | 76 | S.E. | rain. | 65 | 81 | N. | clear. |
| 14 | 68 | 81 | N.W. | clear. | 69 | 83 | S.W. | rain. | 65 | 81 | N.W. | foggy. |
| 15 | 67 | 82 | N.W. | clear. | 69 | 80 | W. | cloudy. | 82 | 83 | N.W. | clear. |
| 16 | 66 | 76 | S.E. | cloudy. | 65 | 83 | W. | cloudy. | 56 | 79 | N.W. | clear. |
| 17 | 68 | 84 | W. | cloudy. | 68 | 78 | N.W. | clear. | 60 | 80 | S.W. | clear. |
| 18 | 68 | 88 | N.W. | rain. | 74 | 85 | N.W. | clear. | 67 | 77 | N.W. | clear. |
| 19 | 68 | 79 | N.W. | rain. | 63 | 83 | N.W. | clear. | 59 | 73 | N.W. | clear. |
| 20 | 60 | 76 | N.W. | clear. | 65 | 83 | N.W. | rain. | 79 | 80 | N.W. | cloudy. |
| 21 | 59 | 76 | N.W. | clear. | 70 | 82 | S.W. | clear. | 76 | 83 | N.W. | clear. |
| 22 | 63 | 70 | N.W. | clear. | 73 | 83 | S.W. | rain. | 63 | 81 | N.W. | clear. |
| 23 | 70 | 70 | S.W. | clear. | 78 | 87 | S.W. | rain. | 62 | 85 | S.W. | clear. |
| 24 | 74 | 87 | W. | clear. | 72 | 89 | S.W. | clear. | 62 | 87 | S.W. | clear. |
| 25 | 77 | 90 | N.W. | rain. | 74 | 92 | W. | clear. | 68 | 87 | W. | clear. |
| 26 | 74 | 83 | N.E. | cloudy. | 78 | 89 | N.W. | clear. | 68 | 89 | W. | clear. |
| 27 | 73 | 83 | S.E. | cloudy. | 74 | 89 | W. | clear. | 66 | 68 | S.W. | clear. |
| 28 | 73 | 83 | S.W. | clear. | 75 | 83 | N.W. | clear. | 61 | 88 | S.W. | clear. |
| 29 | 74 | 87 | N.W. | rain. | 69 | 78 | N.E. | cloudy. | 55 | 90 | N.W. | clear. |
| 30 | 75 | 84 | S.W. | rain. | 59 | 84 | S.W. | cloudy. | 70 | 92 | N.E. | clear. |
| 31 | | | | | 67 | 84 | S.W. | cloudy. | 72 | 89 | W. | clear. |

## TABLE III.

| | Clear. | Cloudy | Rain. | Inches Rain. | Winds. N. to N.W. | N.E. to S.E. | S. to W. |
|---|---|---|---|---|---|---|---|
| 1826 | 198 | 92 | 75 | 30.25 | 91 | 149 | 125 |
| 1827 | 197 | 91 | 77 | 39.18 | 130 | 118 | 117 |
| 1828 | 172 | 107 | 87 | | 142 | 96 | 128 |

The disease which is the subject of the present narrative, first became prevalent in the winter of 1827–8. When the small pox appeared in Philadelphia in 1823, considerable alarm was excited at Wilmington, and measures were then taken to vaccinate all the unprotected population of the town and vicinity. When this task was nearly completed, several scattered cases of small pox occurred, and it was also introduced at the same time into the poor-house near the town; but the unprotected were the only sufferers. With these few cases the disease vanished, not to re-appear for four years. Notwithstanding the free and daily communication with the infected city, distant less than thirty miles, not a single case of variolous affection was observed during this period, in a population of eight thousand souls. At Baltimore a similar circumstance occurred in the winter of 1819–20, when the small pox showed itself, and was fatal in several instances, until its career was cut short by the adoption of a plan for the vaccination of all the unprotected inhabitants. In the same city it again broke out in 1827, and threatened to become general, but vaccination was again resorted to, with the like happy result. These facts certainly afford strong evidence in favour of the protecting power of the cow-pock against the old form of variola.

The first intimation of the return of this unwelcome visitor to Wilmington was in the latter part of the tenth month, (October) 1827. The subject of attack was a coloured woman, who was not aware of any exposure to the contagion. She was unvaccinated, and passed through the regular small pox. In the course of the winter, variolous disease became epidemic, chiefly among the vaccinated; the number of unprotected persons exposed to it being comparatively very small. On the approach of spring it declined, and gave way to measles of unusual virulence. An efflorescence, or rash, upon the skin, as before remarked, attended nearly every case of sickness at this period. On the accession of hot weather in the sixth month, (June), the varioloid again broke out, and prevailed in a greater degree than during the previous winter, but in about two months again subsided, occasionally presenting a severe case through the remaining part of the summer and autumn of 1828. I am not prepared to say, that in the whole term of its duration, a single instance of varicella occurred. Several cases which were pronounced such, proved themselves capable of generating varioloid.

As the prevalence of this disease in the summer season (1828)

was a deviation from the usual course, my particular attention was drawn to it at that time, especially as I could observe its progress in a part of the town not hitherto infected. The form of the eruption, attending symptoms, &c. did not differ materially in general from what was observed in Philadelphia. I will, therefore, content myself in these respects, by referring to an able history of that epidemic, prepared by Drs Mitchell and Bell, and published in the North American Medical and Surgical Journal for 1826.

The first case which happened in the district just referred to, (inhabited chiefly by the lower class of population,) was one of modified disease* in an unprotected system; and as it is the only one of the kind I met with, its history may not be devoid of interest.

*Israel Bush*, aged twelve years, unvaccinated. On the twelfth of the sixth month, (June), he was seized with fever, headache, cough, and other catarrhal symptoms. By the usual anti-febrile treatment, he was much relieved on the next day, when numerous minute papulæ were discernible on the face and hands. As he was entirely unprotected from small pox, I was apprehensive that he had contracted that disease; but the eruption did not extend beyond the face and hands, and becoming vesicular on the third day of its appearance, was sensibly declining on the fourth. I then set it down as a case of varicella. On the 18th of the month, the vesicles had entirely dried, leaving the skin in a *scaly* condition. On the 20th my attention was drawn to another crop upon the face, neck, and arms, which were reported to be of two days standing, and had the appearance of genuine small pox on the fourth day of the eruptive stage. These were matured in five days from their first appearance, retaining their original form, with smooth rounded edges, and mostly a depressed centre. On the 23d of the month, a third set appeared, for the first time, on the feet and legs, and a few on the hands, which advanced to pustules precisely as the second crop, the thin *scales* of which fell off before the last were matured. The febrile symptoms were very slight after the catarrhal affection subsided, the patient not being confined to his bed after the 13th of the month. A short time subsequently, the genuine small pox broke out in the same family, apparently generated from this case.

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*The term *modified* is here used by the author in a somewhat different sense from that in which it is now generally received, as meaning mitigated and shortened, by prior vaccination or variolous infection.—Ed's.

Of five or six cases of the epidemic among the unprotected in the immediate neighbourhood, two ended fatally; one of them, however, more properly owing to a diarrhœa that supervened on the 17th day of the disease. In only one instance was there any variation in the pustules from the usual appearance of small pox, and here they preserved a central depression, with rounded edges, like the vaccine vesicle.

The same district furnished numerous cases of *varioloid*, in the common acceptation of the term, which were generally mild, and presented nothing worthy to be particularized. Several unprotected children, in whom the attempt at vaccination had been fruitless, were hourly exposed to the infection with perfect impunity. That this want of susceptibility in the constitution, which existed both in cold and warm weather, was more than usually frequent, I have reason to believe, not only from my own observation, but also from the testimony of several fellow practitioners. The following case furnishes an example: A vaccinated lad, aged six years, had a mild attack of the disease, which he could only have contracted while playing in the street with other children. An unprotected child that lived in the same room was immediately vaccinated, but to no purpose, and of course ran the risk of incurring the natural small pox. A young woman who lived in the country, and had been vaccinated ten years previously, spent part of a day at the house, and was attacked by the disease on the *eleventh* day after her return to the country. But the unprotected child, though constantly exposed, enjoyed entire immunity.

The fact just stated will also serve to illustrate another feature in the history of this epidemic:—the extreme susceptibility of many vaccinated persons to the influence of the contagion, which often appeared greater in this class than among the unvaccinated. Instances were not unfrequent of the entire escape of unprotected individuals, while the greater part of the family, with the same exposure, passed through varioloid. In a family of six children, all successively vaccinated except one, aged fifteen, whose constitution had resisted every attempt to subject him to the cow-pock, this unprotected one was the last to submit to its influence, the other five having been attacked, one by one, previously. Numbers of the vaccinated were attacked, whose only possible exposure was while passing along the street. No constant relation was observed between this liability to the disease, and its severity.

I met with one case after the epidemic had very much declined, in the 9th month, (September), which had not the appearance of either variola or varicella, but proved itself capable of propagating the varioloid. *Samuel Bayers*, aged 24, vaccinated in infancy, and since repeatedly exposed without effect to the small pox, was attacked by fever, nausea, and occasional bilious vomiting. These symptoms lasted a week, with frequent intermissions. He was not conscious of any exposure to contagious disease. At the end of a week from the first attack, the affection of the stomach gave place to a sparse papular eruption on the face and wrists. On the third day of their appearance the vesicles were small, pointed, inflamed and swelled at the base, and filled with yellowish serum, which was soon changed into pus. Small scabs then formed, which fell off in two or three days. These *pimples*, as they were called, I supposed to have nothing specific in their nature, and to be merely that form of eruption so often consequent to irritation of the stomach from ardent spirits; and the case was positively pronounced to be "nothing like varioloid or chicken pox" by a physician of considerable experience in those complaints. However, his two shop-mates were seized at the same time, in about two weeks, with distinctly marked varioloid, which I have no hesitation in tracing to the contagion of the case just described.

The proportion of protected persons who were susceptible to the contagion, during the term of its prevalence, is very differently estimated by different physicians. So very contradictory are the data on which a conclusion in this respect must be founded, that no constant rule, nor even an approximation to one, can be formed. In some families, the disease did not extend beyond a single case, whilst in others, as far as could be discerned, under the same circumstances, nearly all were attacked. The fact already stated, of five vaccinated children in one family, who all sickened with it, is one in point. A very similar illustration fell under my notice in the 9th month, 1828. A young woman, aged 24 years, contracted the disease in some unknown way, and was surrounded during her sickness by the family, consisting of her parents, who had been inoculated, their four children and a niece, who had all been vaccinated in infancy by different physicians. All except the parents and one child, aged ten, were successively attacked; and with one exception, the disease was lighter in proportion as the period of vaccination had been more recent. In another family, containing seven children

between the ages of ten and twenty-five, vaccinated when very young, six were seized, all very lightly, except one adult, whose illness was extremely severe, and attended by secondary fever. The one that escaped was about twenty-one years of age. In a family of four small children, between two and eight years of age, likewise vaccinated in infancy, the two oldest were lightly attacked, and the remaining two escaped, though they slept in the same bed with the others during their sickness. The younger ones had been vaccinated within three years.

On the other hand, instances could be given where one or two cases, among a large family of children, equally exposed, limited its extent. I am informed by Dr J. F. VAUGHAN, physician to the poor-house of this county, that in the winter of 1827-8, of nearly forty persons who were exposed in the same room to the small pox in that institution, only three or four suffered from the contagion. According to my own opinion, drawn from personal observation, about *one-third* of those *children* who were frequently exposed to the disease, were liable to an attack; but among *adults*, not more than *one of six or eight.* We should bear in mind that a large proportion, perhaps one half, of our present adult population, have passed through natural or inoculated small pox; and hence, are less susceptible to the contagion, according to the common opinion, than the vaccinated.

In most places where this epidemic has made its appearance, both in Europe and on our continent, the efficiency of the accustomed preservative means has been in inverse proportion to the malignancy of the disease among the unprotected. But that such is not *uniformly* the case, is evinced by the fact, that at Hamburg, and other places, where great fatality attended its attacks upon that class, the proportion of modified cases, or those which assumed another form, on account of the previous vaccination or variolation of the individuals, was small. In Scotland, as nearly as can be judged, about one of ten or twelve vaccinated persons was susceptible to it; at Norwich, one in twenty; at London, one in twenty-five; in France, the proportion was still smaller; and in many places vaccination was a complete protection. At Wilmington, the previous estimate exhibits a proportion of about one to four; but in Philadelphia, Professor CHAPMAN stated to the medical class of the university, in a lecture on the subject, during its prevalence there, that, if the students then present, four hundred in number, were to expose themselves to the contagion, by visiting the

small pox hospital, he was convinced three-fourths of them would suffer from disease in consequence thereof.

In regard to the comparative protection afforded by vaccination and variolation, the balance, in my opinion, is greatly in favour of the latter. A very small number of cases occurred within the reach of my observation, after inoculated or natural small pox; not more then one-twentieth part of those attacked were of this class. I doubt very much whether all the cases reported as such, in this as well in as other places, could be substantiated; for the evidence of having been inoculated, furnished by the patient's testimony to that effect, can rarely be relied upon, unless concomitant proof is afforded by a distinct scar. In drawing a conclusion, however, from the relative number of attacks, after the two methods of protection, we should reflect that, on account of the long abolishment of the inoculating practice, only one-fifth (or at most one-fourth) of the whole number exposed to the disease are protected in this way; and these being adults, are generally supposed, for that reason, to be less liable to the contagion of small pox, *cæteris paribus*, than children. Of the comparative severity of the disease, after vaccination and variolation, I am not prepared to form an estimate.

No instance of a *second* attack of varioloid happened in this town, nor, as far as we are informed, in any part of the United States. Whereas Dr Thomson observed *forty* such cases among three hundred and ten patients at Edinburgh; and *two* cases of a *third* attack, one of which was more severe than either of the former. It was not unusual for a second, or even a third crop of vesicles to appear, about the time of the drying away of the preceding eruption. Possibly, some instances of this kind are included by Dr Thomson in his estimate.

The mortality of the epidemic among the unprotected, during the entire period of its prevalence at Wilmington, is variously reckoned by different practitioners. But it certainly was not nearly so great as at Philadelphia and some other places. After weighing the different statements in this respect with the best judgment in my power, I believe the proportion of fatal cases to have been about one in four or five. There was no well attested instance of death among the protected.

Some facts occurred, tending to support a hypothesis that has hitherto found few advocates, viz. that vaccination affords, in many

cases, only a temporary protection. In my own experience with more than forty individuals, there was not a single very severe case in a patient under ten years of age, who had undergone the genuine cow pock. The same circumstance attracted the attention of several other physicians. Only four of the forty above mentioned were children under four years, and fifteen were between eighteen and twenty-five. Seven of these fifteen were very severe cases, three of them so much so, that they presented for a while faint hopes of recovery. In five persons of the seven last referred to, including two of the dangerous cases, the marks of vaccination were very distinct, and apparently genuine.

On a subject of so great importance, I will add the testimony of Dr Mohl of Copenhagen and Dr Dufresne of Geneva in support of this view. We are told by the former, that, at Copenhagen, of six hundred and fifty-three cases of modified small pox among the vaccinated, not one was under three years of age, only fourteen under five, one hundred and two between five and ten, one hundred and seventy-three between ten and fifteen, one hundred and eighty-seven between fifteen and twenty, one hundred and fifty-six between twenty and twenty-five, and twenty-one above twenty-five. When we consider that vaccination is mostly performed there in infancy, we cannot but admit that the foregoing affords pretty direct evidence of the wearing out of its preservative power. Dufresne relates, concerning one hundred and six cases of the same kind at Geneva, that three of them had been vaccinated within six months of the attack, four within a year and more than six months, thirty-four between one and five years before, thirty-six between five and ten, twenty between ten and fifteen, and nine between fifteen and twenty. This report tends in a small degree to add strength to the same point. So also do the observations of Adams, Gregory, Cross and others.*

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* Were this opinion fully borne out by adequate testimony, the value of vaccination would indeed be greatly lessened. But we are not by any means prepared to give our assent to such a belief. We would refer our readers to the paper on the History of the Natural and Modified Small Pox as it prevailed in Philadelphia in the years 1823 and 1824, by Drs Mitchell and Bell, in which, page 242, vol. ii. of this Journal, the question is discussed. Dr Pearson, the contemporary of Jenner, and a most zealous advocate for vaccination, admits the occurrence of small pox a short time after this operation has been successfully performed, and attributes the attack of the variolous disease to the recency

Although previously inclined to believe that the system cannot be partially subjected to the cow pock by what is commonly considered an irregular or spurious vesicle, several cases occurred which tended to shake my faith in that opinion. Two of these I will briefly narrate.

*Peter Howard*, aged twenty-two, was seized on the 25th of the sixth month (June) with high fever, accompanied by violent pain in the chest. On the evening of the 27th when I first saw him, the pain still continued with great dyspnœa, a feeble, oppressed pulse, and sense of extreme debility. A few papular prominences were to be seen on his face. He said, in reply to my inquiries, that he had been vaccinated when a child, and afterwards had passed through natural small pox; but on examination, no marks of either were discernible. Venesection and a cathartic were prescribed with much advantage. On the next day, he was free from pain, but his whole surface was thickly covered with a papular eruption, which advanced by regular stages, and was matured on the eighth day. At this time it had every appearance of genuine small pox, but immediately began to decline, without secondary fever; so that in another week the scabs were falling off, and convalescence was nearly complete.

*Daphne Draper*, aged four years, was attacked on the 20th of the seventh month (July) with high fever and vomiting, and on the next day a papular eruption thickly covered her whole skin. Her mother stated, that about two years before, the child and her older sister had been vaccinated, but the physician who did it, pronounced the pock, in both cases, irregular, and advised a revaccination at a future time. The arms of both children presented cicatrices, but very unlike the marks of genuine vaccination. Although the eruptive fever in the one above named was not very high after the first onset, yet delirium or stupor almost constantly attended; and the girl having a feeble constitution, the prospect of her recovery from what appeared to be severe small pox of the distinct form, was much clouded. However, the pustules filled kindly, becoming in many places confluent, but evidently disposed to retain the distinct

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of the vaccination. Now-a-days, this occurrence is referred to the greater remoteness of the latter. Are not both opinions incorrect; and must we not refer the proneness to an attack of varioloid, to the particular constitution and temperament of the individual.—Ed's.

form, and on the ninth day of the eruption I had the satisfaction to find the little sufferer sitting at the window. From this time she recovered rapidly, without fever, or a single unfavourable symptom. Meanwhile, the older sister, who had also been exposed to the contagion at the same time, had a slight accession of fever, accompanied with nausea, but not followed by any cutaneous affection. Similar cases were not unfrequent among the vaccinated who were exposed to disease.

In both the individuals whose cases have been related, I supposed the disease to be unmodified small pox, of which it surely had every appearance until the ninth day. The unexpected change which took place at that period, convinced me that the previous imperfect vaccination was still capable of exerting some influence over the constitution, and of modifying the disease into severe varioloid.

As additional evidence, tending to the same conclusion, I am reminded of the difficulty often found in exciting a true vaccine vesicle in the persons of those who have undergone the spurious cow pock. Indeed, it is often impossible to induce the genuine vaccine disease in such individuals. On what principle can this be explained, unless we admit that the spurious vaccination, so called, has had a partial, or perhaps in some instances, a complete specific influence on the constitution?

On the subject of *revaccination*, I will state a few facts. In the spring of 1828, I tried the experiment on one hundred individuals of various ages, from one year up to twenty, who had mostly been vaccinated in early infancy. Two of these, aged eighteen and twenty-two, had vesicles which appeared genuine in every respect, except that they decayed rather prematurely. The scars left on their arms differed from those of genuine vaccination only in being somewhat more superficial. The old marks appeared genuine, and I have no doubt that both of them had originally the true cow pock. One of them was my brother, who had been, at different periods within a few years, revaccinated, without any other effect than the production of papulæ, which vanished in a few days. The only one of the scabs that I succeeded in procuring, was composed of a thin lamina of what appeared to be true vaccine virus. This produced papulæ when inserted into the arms of several vaccinated persons, but I regret that I did not try its effect on the unprotected system. In fifteen of the remaining ninety-eight, imperfect pustules were produced, which were, in general, more sore in proportion to the

freeness of the incisions made on inserting the matter. Of the rest, the virus introduced caused papulæ in some, and in others had no effect. The mild weather that prevailed at the time was not the most favourable for the activity of the infection.

Of the whole number revaccinated, a few only were subsequently exposed to the contagion of small pox, and these were almost exclusively very young children, whose original vaccination had been but a year or two before. The others lived chiefly in a part of the town not infected. These circumstances will, in a great measure, explain the fact, that only two of the hundred were afterwards seized with varioloid; and they prevent us from drawing any important inference in regard to the influence of revaccination.

Though unwilling fully to embrace the doctrine that supposes a wearing out of the preservative power of vaccination, I would, nevertheless, recommend a general repetition of the operation at any time when a variolous epidemic makes its appearance. This plan would, at least, ensure all the protection that the cow pock can afford to those persons whose original vaccination is of doubtful genuineness.

The disease under consideration, which has assumed so Proteian a shape in its recent extensive range as an epidemic, remains to afford a subject for much speculation, in which it is not my design to engage. We have a large mass of facts before us in regard to it, but some of them appear so contradictory to others, as to render it almost impossible to form a single rule that will hold good on all occasions. It is the opinion of some celebrated writers, that the tendency to epidemic exanthematous diseases has greatly increased of latter years, and that small pox has been influenced by this circumstance, being more malignant than formerly. The malignancy of the present epidemic in the unprotected system, as before remarked, seems to have kept pace, in a great degree, with its power of overcoming the usual preservative means. At no places on this side the Atlantic has it been so virulent among the unprotected as at Philadelphia and Wilmington; and at no places, so far as we have learned, has so large a proportion of the protected been attacked. At Baltimore, where it did not extend far among the vaccinated, its mortality in the unprotected is estimated in the proportion of one to six or seven. At Wilmington, where it was more frequent in its attacks on the protected, the mortality in the other class was as one to four or five. And in Philadelphia, where vaccination was still less efficient as a preservative, the mortality was

as one to two. This rule, however, has exceptions, as previously stated.

The epidemic agency, by which variolous disease is aggravated, has exemplified itself on some occasions in a striking manner. In Holstein and Denmark, where vaccination was a complete protection prior to 1824, hundreds of failures took place in the few ensuing years. In Baltimore, on the first appearance of the small pox, it was entirely exterminated by vaccination; but on its second visit, that barrier was partially broken through. Precisely the same thing occurred at Wilmington. Here, vaccination remained to be effectual for four years, although the aggravating influence just alluded to was exercising itself actively at no greater distance than thirty miles.

The experience of a few years will show whether the revolution which has taken place in this class of exanthematous diseases is to be permanent; or, whether by a relapse into the old routine, the gift of the illustrious Jenner is to be restored to its former exalted station.

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## Article IX.—*History of a case of Puerperal Convulsions. By* Thomas T. Hewson, M.D.

[Read before the Philadelphia College of Physicians.]

The communication of individual cases has on many occasions contributed to the advancement of medical science. From such sources have been frequently derived the first intimations of certain specific forms of disease, which had previously eluded the attention of practitioners. Pathology has likewise received valuable additions from the accidental and fortunate elucidation of the phenomena of morbid derangement, as contained in memoirs and communications collected by different associations of medical men. The introduction of new and more appropriate modes of treatment may be often traced to the cure happily obtained in an insulated case. The history of the case of puerperal convulsions, about to be offered, does not present any of these advantages; it is naked and barren of the clear and distinct pathological views to which we all naturally

aspire: and the issue having been unsuccessful, it does not excite any increased confidence in the remedial means that were employed. It was, however, while the subject of medical attention, a case of peculiar interest to those to whom that duty had been confided. After the death of the person, permission was obtained to examine the body. An account of the phenomena, which were then noticed, may prove not altogether uninteresting, and may tend to elicit valuable information from those who have had more extensive experience, and who are more familiar with the opinions and observations published on the diseases incident to females at the period of parturition.

On the evening of the 29th of August, Mrs S., a young married woman, of light complexion, and of a nervous temperament, pregnant for the first time, and on the eve of being confined, was seized with convulsions, succeeded by stupor, which continued for half an hour, when she became sensible. Her skin was warm and her pulse frequent. On her arm being tied up, in order that blood might be taken, she complained of dimness of sight, which was soon followed by total blindness and complete insensibility. She lost about fourteen ounces of blood; but not being benefited, she was cupped and had a common injection administered before her labour came on. At noon of the 30th, after a labour of ten hours, Dr Shoemaker succeeded in delivering her of a living child. She, however, remained in a state of total insensibility, subject to occasional convulsions, affecting the whole frame. Countenance flushed, skin warm and perspiring, pulse 120, uterus contracted, slight acidity observed in her breath. Dr J. W. Moore joined in the consultation. From the nature of her temperament, and proneness to hysterical affections, a hope was entertained that the irritation of her system might be allayed by the administration of an enema, containing three grains of opium, and by giving her fifteen grains of the bicarbonate of potassa in half an ounce of camphor mixture, every two hours. At 4 P.M. the stupor still continued, countenance more flushed, skin very hot and perspiring; the superficial veins very much distended, pulse 144 and full; she was bled to the extent of sixteen ounces. Her head was shaved and a blister applied so as to cover the hairy scalp; and a scruple of the submuriate of mercury was given. At 8 P.M. her skin was hot and dry, pulse 130. She moaned frequently, as if in pain. The submuriate

was immediately repeated, and the further exhibition directed at midnight, when an enema should be administered to solicit the operation if required.

August 31st, 8 A.M. one drachm of the submuriate has been given, and the injection administered without procuring any discharge from her bowels. Abdomen tympanitic, skin hot, pulse 150. Half an ounce of castor oil and a drachm of oil of turpentine were ordered to be given every two hours, and a large blister to be applied to the abdomen. At noon we learnt that she had had four large yellow feculent stools. The abdomen reduced. Head discharged freely. She had occasional convulsions, pulse 150, skin hot. She was again bled to the amount of ten ounces. An enema, consisting of half an ounce of the oil of turpentine and forty drops of tincture of opium with two ounces of mucilage, were directed to be thrown up the rectum, and the mixture with castor oil and oil of turpentine to be continued. At 4 P.M. she was observed to have a difficulty in swallowing. The enema was not retained. Countenance composed. Pupils, which hitherto had been dilated, now contracted. Skin hot. Pulse full, but not easily counted. Leeches were ordered to her temples. At 8 P.M. total inability to swallow. Constant lachrymation. Eye-lids nearly closed. Eyes fixed. Skin cool. Pulse much reduced in strength. Blister on the abdomen has not acted. No discharge from the bowels. A glyster, containing one drachm of assafœtida and three grains of opium rubbed up with two ounces of mucilage, was directed. She died at eight in the morning of the 1st of September. On the next day, exactly twenty-four hours after her decease, the following circumstances were noticed in the post mortem examination.

The cuticle of the abdomen was loosened by the action of the cantharides, and on being wiped away, the true skin appeared healthy and bedewed with serum. On opening the cavity of the abdomen, the peritoneum presented not the slightest deviation from the most perfect and healthy condition. Its internal or secretory surface was smooth, highly polished, and exhibiting no alteration of structure corresponding to the cicatrices so generally observed in the skin covering the abdomen of women who have borne children. The liver was natural in size, and healthy in colour. On the convex surface, three long membranous adhesions connected the left lobe with the diaphragm. The spleen was healthy. The stomach was of ordinary size. At the lesser curvature the coronary veins

were distinctly seen filled with blood, allowing them to be traced for more than an inch. Laying open the stomach, it was found to contain about an ounce and a half of fluid, exhaling the odour of turpentine. On the internal surface we discovered a few red lines, which appeared to correspond with the coronary veins already noticed. The mucous coat was of a cream colour, and was easily removed by scraping with the finger nail, or with the handle of the scalpel. The pancreas was healthy. On opening the duodenum this portion of the intestinal canal was found filled with yellow bile, which had imparted its peculiar colour to the mucous membrane. The other intestines were pale and somewhat distended. The urinary bladder contained a small portion of fluid. The uterus equalled in size a man's fist. It was of a flesh colour, in some places, however, presenting a deeper shade of the same colour. The walls were half an inch in thickness. On the anterior surface near to the fundus, and inclining a little to the left side, there was observed a small tumour about the size of a chinquapin, and forming a slight eminence externally, rather paler than the uterus, and softer in its texture. It did not extend so as to be perceptible on the internal surface of the uterus. In the cavity of the uterus we found coagula of blood; and on an area of three inches in diameter, the internal surface of the uterus was covered with a coating of dense coagulated blood, on removing which the surface appeared healthy, not differing in colour from the other portion of the uterus, except that it presented some dark spots, which proved to be the orifices of vessels filled with blood. The os tincæ was dilated, and readily admitted the passage of my hand. The contents of the thorax deviated in no respects from the most healthy condition.

The head had been cupped and blistered. On dividing the scalp; serum followed freely, and the influence of the cups was seen in the red patches traced to the pericranium. In removing the scull, the dura mater was divided by the saw, and left attached to the bony case. On the cerebral surface of the falx, near to the superior posterior angle of the left parietal bone, we discovered a hard calcareous concretion, about the size of a large grain of rice. In all other respects the dura mater was perfectly sound. The arachnoid membrane was clear and healthy. The vessels of the pia mater contained rather more blood than is observed in the healty condition of this membrane. The colour of the cineritious portion of the brain was natural. The medullary matter was

white, and free from the red spots so generally observed where there has been any determination of blood to the head. The lateral ventricles contained about a drachm of limpid serum. We observed no marks of disease in the plexus choroides. The appearance of the cerebellum was perfectly healthy. The pia mater covering the medulla oblongata was of a beautiful pink colour, and the fluid found in the surrounding space might have equalled a drachm. The crura cerebri and cerebelli, the pons varolii, and the eminences on the medulla oblongata were remarkably prominent. The pons varolii was marked by crucial furrows, resembling the cross of St Andrew. At the point of decussation, the depression was more deeply defined, so as to form a small pit.

Dr J. W. Moore and father, and Dr Wood, were present at this examination.

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## Article X.—*Case of Catalepsy.* *By* Charles D. Meigs, M.D.

[Read before the Philadelphia College of Physicians.]

I published a case of catalepsy (which I saw with my late friend Dr Emlen) in the first volume of this Journal. Since then I have witnessed another case, which I beg leave now to communicate:

Wednesday, December 17th, 1828. At a quarter before two o'clock, I was called to Mr John Sailor's, in Eighth street, to see his servant girl, Mary ——, aged 21 years. She has enjoyed good health, and has menstruated regularly since her fifteenth year.

She complained this morning of diarrhœa, with pain in her bowels; on account of which her mistress gave her a dose of castor oil, with ten drops of laudanum mixed in it. After this she felt better.

At eleven o'clock, it was stated, she had fainted away and was laid on a sofa, where she had remained ever since, without the least apparent sense or motion. Slapping, harsh frictions, shaking, loud hallooing in the ear, opening the eye-lids so as to expose the eye to light; all these were incapable of producing in her the least evidence of sensation.

I took hold of her hand and raised it in order to feel the pulse. When I let the arm go I discovered by its retaining its position that she was cataleptic.

The attention of the family was now called to the phenomena of this very singular disease, after having mentioned to them Dr Collins's idea of its being always a *morbus simulatus*,—a hypothesis at which they hooted, from their view of the present case, and their knowledge of this young woman's character.

As she laid on her back, I placed her arms in various postures, all of which she perfectly retained, until I changed them, no matter how constrained and awkward they might be. I even raised her foot (as she laid at length on her back) five or six inches from the sofa, and there it remained supported by the muscles, until I pushed the limb down again. The head I lifted off the pillow, and it remained awkwardly bent forward in the neck, as if the neck had been made of wax. I separated the fingers widely, closed them, opened the hand, shut it again ; the muscles in every case retaining the parts in whatever position I gave them. The muscles did not feel hard as if in strong contraction, nor was there any difficulty or resistance in conducting the member to any position. The *vis insita*, or sensible organic contractility, seemed to have received an augmentation of force. While the *vis nervosa*, or animal contractility, was in a state of abeyance.

The pulse was somewhat accelerated, and rather harder than natural : pupils in a middle state of contraction, tongue clean, skin normal.

She did not recover until 3 P.M. when she came quite to herself, and complained of no pain.

Mary —— had an attack eighteen months before this one, of what Mrs S. considered as a fainting fit, which lasted four hours. It was occasioned by the sight of some blood : as she laid all that time on a bed, they did not remark any of the cataleptic symptoms now exhibited before them. Perhaps it was a case of catalepsy.

The only remedies used in this case were a tea-spoonful of tincture of assafœtida, a sinapism on the epigastrium, and some warm water as she began to recover.

ARTICLE XI.—*A Summary of the Climate and Epidemics of Savannah during the series of years from* 1826 *to* 1829. *By* WILLIAM R. WARING, M.D.

This paper will comprise a summary of the climate and epidemics of Savannah during the series of years from 1826 to 1829. It will be readily perceived that they are worth a public notice, from some remarkable and interesting peculiarities that cannot fail to strike professional attention. We commence our account with the fall of 1826, which was dry and warm. It produced a species of disease novel and unknown here, which the people designated by the significant denomination of breakbone fever. Its distinctive features consisted of violent pain of the head and loins, with a sort of rending of the bones of the extremities, of a single paroxysm of various duration, and a temporary inflammation of the skin and eyes. Scarcely any person escaped, of whatever colour, age, sex, constitution, occupation or habits; and yet, notwithstanding this extensive prevalence, no instance of death occurred, at least of which I have been informed. The first cases excited great alarm; the fury of the symptoms, and early illness into which the patient seemed to be precipitated, presented the aspect of a disease uncontrollable and speedily destructive. A little experience, however, discovered that the pain and suffering very far surpassed the degree of peril, and that instead of being, as it threatened to be, an affection beyond remedy, it really required scarcely any remedy at all. It was an ephemeral gust, which did not destroy, but prostrated the muscles and the digestive function, and left behind it as great a sense of general debility as results from a tedious attack of autumnal fever. The patient's strength returned slowly; the injury impressed upon the constitution was such as might have been expected from the violence of the symptoms, but was much beyond what would have been anticipated from the shortness of the case, or from the emaciation of the person produced by it. The treatment of an epidemic so general, and involving so little danger, was various, as might be supposed, and consisted of every sort of remedy. The majority of the sick did not appeal to medical men, but took medicines according to prejudice or fancy. Some physicians, in subjection to one theory, stimulated; some, in subjection to another, depleted; while a very prudent third party founded themselves on

the convenient doctrine of expectation. Yet, in defiance of this diversity of modes, learned or vulgar, spite of means correct or erroneous, the event was uniformly a recovery. A gentleman of the Board of Health informed me, that at one time, within the compass of his department, upwards of three hundred persons were affected, that perhaps not more than a dozen took medical advice, and that nevertheless no instance of mortality occurred. This fact is a great practical eulogy upon the sanative power of the vis medicatrix, and a not less practical satire upon the pragmatical presumptuous meddling practice of the present day.

During the winter of 1826–7, although the breakbone fever had been suppressed by the frost, the proneness to cutaneous inflammations continued. Several eruptive affections appeared at different times, as evidence of it, and among them was a hideous erysipelas of the head and neck. Five cases took place at cantonment Oglethorpe, in soldiers of the army, and others in detached situations, among negroes and whites, but principally among negroes. It affected the head in such a conspicuous degree, that some persons called it "swelled head," from the enormous enlargement which the part exhibited. I made one post mortuary inspection only; the mucous membrane of the stomach and duodenum were found inflamed; the former slightly, the latter intensely. The lower portion of the left lung, in connexion with its contiguous pleura, was also inflamed. The brain and its capsules were entirely exempted from any morbid appearance, although the soft parts enveloping the cranium were so extensively affected. I would ask in this place, whether this fact does not tend to prove that blisters and rubifacients are free from the pernicious property sometimes imputed to them, of aggravating internal irritations, which they are designed to remove by applying them in the neighbourhood of the parts affected? This season was the reverse of those we usually experience. The degree of cold was greater, and its continuance longer, than ordinary; it extended throughout the spring, and depressed the heat of June so as to form the general temperature of May. As July advanced, however, the weather became warm, sometimes sultry, rainy, humid, and retained this state until the 26th of August, when autumnal winds were introduced. These, which are always chill and damp, promptly cooled the atmosphere, and curtailed the summer of the time which it frequently embraces. The rains still continued to fall in heavy and repeated showers, through the months of

September and October; and the thermometer, often variable, indicated numerous vicissitudes of temperature. A frost took place in the first week of November, which completely blighted every species of deciduous leaves, and totally suppressed the diseases which are understood to result from vegetable or animal decadence. Thus the whole summer and fall appear in reality to have consisted of four months only, July, August, September and October, a term more brief by a month at least than is incident to this city, at epochs of great epidemics. These latter portions of the year gave rise not merely at different, but also at simultaneous periods, to some very extraordinary varieties in the prevalent fever. Perhaps two-thirds might have been distinct intermittents, while another third was composed of remittents nearly intermittent, of yellow fever in its worst degree, and of genuine eruptive breakbone. Thus it will be remarked that the liability of the skin to be invaded by inflammatory complaints still existed, and continued to exhibit itself, notwithstanding the supremacy of gastric and hepatic disease, properly so called. In many instances you could even imagine a struggle for ascendency between internal and external tissues. Cases of black vomit and of breakbone were so minutely similar in the first stage, that you could not identify them. And as an intelligent physician expressed himself, it was sometimes impossible for him to determine whether he should have to treat a yellow fever of the skin or the stomach, or inversely, a breakbone of the stomach or the skin.

The winter of 1827–8 was more exempt from intense cold than any remembered among us, and was the direct opposite of that of 1826–7. It produced but two or three white frosts, and February was so warm that some planters even ventured to put cotton seeds into the ground. The consequence of this bland temperature was an uncommon salubrity of climate; the weather was too cool for summer, and too warm for winter diseases. The following spring was not so healthy; children suffered a good deal from swine and chicken pox, and manifested again, by these eruptions, the unsuppressed epidemic propensity to disorders of the skin. The commencement of summer, however, entirely expelled these, and the purity of the atmosphere was restored. But about the last of August northeast winds resumed their usual predominance, and another eruptive epidemic was ushered in. It differed so slightly from the breakbone of 1826 and 1827, that, in my notes, I find the first cases called by that name, according to popular usage. This distinctive appel-

lation, however, was soon supplanted by the Spanish word *dengue*, which had migrated from Havanna to St Mary's, Savannah and Charleston. The best explanatory denomination, for common parlance, would have been eruptive rheumatism, or rheumatic eruptions, because it expresses the prominent form and features.

This disease assailed in different ways, according to sex, age, complexion and circumstances. In general, it came on with a chill, or that ordinary recession of the superficial excitement which approaches to the chill, and is a substitute for it, with excruciating pain of the head, back, loins and joints; stiffness, restlessness, and an acute sense of universal distress, which continued for a few hours, and were succeeded, for the most part, by a single hot fit of one, two, or three days, but generally of one day only. The hot fit mitigated the violence of the symptoms, and this was more marked if a bright red eruption made its appearance. The fevers terminated as febrile disturbances under other forms, with a gradual tranquillizing of the heart's action and a diffuse perspiration. The eruption was developed in most cases, but this depended on different degrees of irritability in the organ, from age, sex, complexion, and perhaps from some unknown condition impressed by accidental causes. In children and young people, particularly young women, it was almost invariable; in the middle aged frequent; in the old, and in negroes who have the dermis thick, it very seldom occurred. The tender and sensitive skins were usually inflamed, while those with capillaries not constitutionally alert and excitable, sometimes escaped. The red colour, in white persons, was moderate or intense, agreeably to similar circumstances; but in blacks, the affection itself was only to be detected by greater roughness under the touch, and lighter shading of the parts most injected with blood. In some instances it spread in patches; in others in an unbroken flush over a greater or less extent. The cuticle was generally somewhat elevated; but frequently, although the redness assumed a deep tinge, this could not be discerned with the eye. It remained during a variable term, from a few hours to several days, and disappeared quickly or gradually with desquamation or efflorescence, or neither, according to the degree of injury done by the flux of blood into the parts. There were cases so transitory, that I have seen the skin blush and recover its natural appearance again, even while sitting at the bedside of the patient. The inflammatory action of the vessels was in other instances tenacious and virulent, and

was occasionally repeated even after it had subsided. The arms, breast, neck and face were affected by preference, but the rest of the cutis was irregularly implicated.

The rheumatic inflammation occurred more early in the disease than the eruption, and indeed was sometimes contemporary with, or preceded the febrile invasion itself. It attacked large and small joints indiscriminately; sometimes several together, but generally one and then another successively, until a number were involved. The muscles were at times subjected to pain, soreness, stiffness, or even loss of power, and were evidently comprehended within the circle of the inflammation of the joints. The pain often came on in a surprisingly sudden manner, as if the part had been shot. A gentleman on his way to market one morning was thus stricken in the first joint of the thumb. He went on and executed his business nevertheless, but before he had returned to his house, his wrists, his knees, and finally his shoulders, were suffering from excessive torture. The intensity of this pain was equal, I think, to that of any acute gout. Joints, from anterior injuries, as sprains or luxations, were most liable to be attacked. In children, or the youthful, it either terminated with the fever or soon after; while in the old it frequently became chronic, the part remaining sore for weeks or months, and subject to occasional afflicting exacerbations. Many could not bear the shaking of hands for some time after the general health seemed to be established. And others, affected in the lower extremities, limped with a staff like those who have decrepitude from gout. It produced very slight enlargement of the joints; more of the wrists, ancles and fingers, I think, than elsewhere, but uniformly the tumour bore no proportion to the degree of pain.

The eruptive and rheumatic inflammations were inverse of each other. Young, delicate skinned subjects, who suffered most from the former, were least afflicted by the latter: while, on the contrary, the old and callous skinned, who were most harassed by the latter, were seldom, or were favourably affected by the former. The middle aged suffered from both, but less from rheumatism than the old, and less from eruption than the young. Thus it would appear to me, that they exerted a mutual counteraction, and that when irritation was deficient in the joints, it became aggravated in the skin, or vice versa. In a few instances the rheumatism not only enlarged the ancle itself, but also gave rise to œdematous swellings

of the feet and legs, which it was difficult to remove. Sometimes it protruded ganglious from the wrists, which weakened the hand, and interfered with its free use. This singular disease occasionally affected the genital organs of both sexes: in child-bearing women it produced the true parturient agony, as at the expulsion of the fœtus; in men it inflamed and swelled the testicles. The vision of some persons was impaired and weakened by it, so that afterwards they were under the necessity of wearing spectacles. The nervous systems of children were sometimes implicated by an error of the regular revulsion, and they were attacked with convulsions, but without a fatal result, as far as my observation extended. I present here a case, with the treatment, as illustrative of the disease, in an elderly subject.

Mrs ——, aged fifty years, a native, of fair complexion and ordinary stature; well constituted and healthy, had been slightly indisposed for several days, was seized on rising from bed, on the morning of Sept. 2, 1828, with pain and stiffness of the joints of the extremities, pain of head, loins, &c. The pain of the joints became excruciating by a voluntary effort; the ancles and feet were so distressingly sensitive that she could neither walk nor stand without intolerable anguish, and the hands she kept in perfect quiet, without daring to employ them except for the most absolute necessities. All this seemed instantaneous, for previous to getting out of bed she was unconscious of suffering more disorder than on the preceding day. Very soon a paroxysm of fever succeeded, and when I saw her at five o'clock of the afternoon, she was flushed and excited, the pulse was active, the heat and thirst were considerable. A perspiration broke out in the course of the evening, and an amelioration of symptoms immediately took place. I prescribed a small dose ol. ricin. with diluent drink.

3d. Nine o'clock, A.M. Fever gone; pains diminished, joints sore when moved or pressed, tongue foul. ℞. diluent drinks. Six o'clock, P.M. furnish ℞. diluents.

4th. Apyrexia; pains still subsiding: walking practicable on this day, but painful; tongue foul. ℞. Ol. ricin.

5th. Weak and stiff; anorexia. ℞. diluents.

6th. Much the same as yesterday. ℞. diluents.

7th. Erythematous eruption over all the body, appearing later than usual. ℞. diluents.

8th. Feels improved since the development of the eruption; still anorexia; the soreness and stiffness of the joints not entirely gone. In this case the soreness and stiffness became chronic, as was generally incident to persons of the same age; and for a length of time, in consequence of continued irritability of the parts, were easily aggravated by indigestion, or accidental exposures. The skin desquamated.

I present another case of the disease, as illustrative of it in a young subject. B. aged 26 years, robust and healthy, a native, was seized on 26th August, 1828, with chill, pain in the limbs, loins and abdomen, which were followed by a hot fit, red injection of the capillaries of the skin and conjunctiva. On 27th, the fever and pain abated, and I was sent for on 28th to see him for the first time, in consequence of his becoming ill from a dose of antimony, which he had swallowed of his own accord. I found him with pain in the head, back and extremities, sense of weight at stomach, respiration hurried, anxious and restless; pulse feeble, skin cold, and presenting a dark red colour; when pressed, retained the white print of the fingers for some time, the blood very slowly re-injecting the vessels; in some spots the red suffusion was sprinkled with pimples containing serum; conjunctiva over the sclerotica very red. ℞. large blister to epigastrium. One o'clock, P.M. Heat diffused, skin not dark but bright red, the capillaries more active in returning the blood after pressing it away; much better. ℞. Ol. ricini ℥ss. Six o'clock, P.M. Pains moderated or gone off, fever declining, some remaining uneasiness of the bowels. ℞. Ol. ricini ℥ss. 29th. Nine o'clock, A.M. Fever further reduced; pains entirely gone; is better. ℞. Cath. of senna, manna and Epsom salt. Three o'clock, P.M. Cath. had purged well, symptoms ameliorated from it. ℞. diluents. 30th. Free from pain; tongue still foul, and fever not quite extinguished. ℞. Cath. senna, &c. as on 29th. 31st. Convalescent; colour of skin not completely removed. This patient rode into the country, and returned in a few days without a remnant of his disease. The case consisted of one long paroxysm only; did not become chronic as in old persons, and was treated with advantage by active purgatives. It is well worthy of notice, also, that the inflammation of the skin, while the powers were prostrated, assumed a dark red appearance, and the blood circulated badly through the vessels of the parts affected. This, I

suspect, is the precise inflammatory state which, in reference to the mucous membranes, has been mistaken for venous congestion, or sanguineous accumulation from debility.

The pathology of dengue consisted in primary irritation of the mucous membrane of the stomach, or of the stomach and intestines. The accelerated efforts of the heart, the inflammation of the skin and joints, I consider to have been sympathetic revulsions, and secondary. The gastric irritation did not at all times perceptibly precede the secondary affections, as in pleuritic fever, where the stitch under the ribs and the febrile movements of the heart which result from it, seem to be concurrent, without being so in reality. But in almost all cases, the incipient irritation was manifestly, as well as truly, antecedent to its effects. The patient was first affected as in ordinary autumnal fevers, with the same predisponent symptoms which are now generally understood to be indicative of the gastritis, initiatory of that disease; such as sense of universal indisposition, indigestion, loss or excess of appetite, nausea, chilly sensations, erratic uneasiness, headache, constipation, foul tongue and foul taste. The similitude did not stop here. After the predisposition was passed, and especially if the pains were moderate, which sometimes happened, it continued into the febrile paroxysm; so that the distinction could not be affirmed, until the eruption had been developed. I remember the case of a gentleman who had exposed himself in the country, on an excursion to his farm. He was violently attacked with every symptom of common fall fever; a chill, numerous pains, distress in the loins, abundant vomitings of bile, and an intense fit of arterial excitement. I was satisfied that this was a bilious gastritis contracted from the miasma of a marsh, and did not discover my mistake until the skin became inflamed. Hence I am permitted to consider dengue as based in gastric or gastro-enteritic inflammation, for as good reasons as I attribute our annual remittent to that origin. The first morbid impression having been made in the mucous membrane, the system underwent what the nosological gentlemen call a collapse. This, as in every form of fever, was the period of greatest suffering to the patient. About twelve hours having elapsed, a centrifugal revulsion took place, the internal oppression decreased, while the external excitement proportionally increased; the vascular action was altered. The pulse became full and soft, skin permanently warm, cheeks flushed, eyes red, general distress moderated, the

pains confined and riveted to the joints. In a short time the efforts of the heart relaxed, the heat lessened, and an eruption was thrown out. The primitive irritation had evidently undergone a transposition by a critical act of the superficial capillaries and parts appertaining to the joints. The patient now commenced to convalesce; he got out of bed with difficulty, and moved about stiffly and contorted. The disorder which had been excited in the stomach remained in some cases for a length of time in a subdued or subactive state; but for the most part it went off, particularly in young persons, gradually and entirely.

As it was very soon understood that the disease passed away in a great measure by irritation of the skin, some persons attempted to drive it into this part by the obsolete method of administering stimulant substances during its progress. These attempts, instead of expelling the gastritis, augmented it; they operated as such a course is known to do in the contagious exanthemata. I have seen what ought to have been a simple erythema exalted into an erysipelas, thickening the skin, descending and bloating the cellular tissue beneath, and yet without curtailing the fever in the least degree by these pernicious effects. I have reason to think, moreover, that this kind of treatment, pursued even after the regular subsidence of the active symptoms, was sometimes the efficient cause of certain cases of relapsed dengue under a distinct form. These cases were serious or deadly, and assumed the aspect of bilious fever, yellow fever, dysentery or acute pneumony, without evincing the external or secondary irritations at all. The limbs and skin refused to participate in the disease, and by defect of the counter excitement, of which they ought regularly to have been the seat, was occasioned or intermediately established the aggravated violence which characterised them. But the direct propellant was the operation of undue excitants upon parts still morbidly irritable, or still actually inflamed. The secondary were swallowed up in the primary affections, as in small pox, measles, erysipelas, where the cutitis has receded, without passing through the regular stages. The exanthemata are mild diseases, by the circumstance of being exanthematous; the inflammation of the skin makes them so. But when by accident or imprudence, the establishment of the eruption has been thwarted, or, after the establishment, it has been prematurely removed, they are understood to be among the most mortal maladies to which we are subject. Under such circumstances, I know

nothing to which they may be more pertinently compared, than an explosion of gunpowder within a barrel, having its muzzle closed. The expanded air bursts the implement, because it is not permitted to escape. The following is the history of a case of this non-eruptive dengue.

H. a black, aged twenty-two years, short, well built, healthy; a native, was seized 6th October 1828, with the ordinary symptoms of dengue, which at the same juncture was prevailing among the family and servants of the house. No restrictions were enforced upon the habits of this patient, as no danger was anticipated, and it was expected he would immediately, and without difficulty, pass through the disease, as every one was doing at the same period. Several days had elapsed, no eruption appeared, the pains subsided; but it began to be perceived that the case assumed serious and unusual symptoms. A physician was then sent for. No diary of the incidents was kept, though they were as accurately sketched as practicable after the death took place, and were as follow: During the first days after the adverse change, fever of a double tertian type, the principal paroxysm always beginning with a chill, nausea, and discharges of bile upwards and downward; conjunctiva, skin and urine tinged with bile; last three days, obliteration of the remittent forms, cessation of nausea and vomiting, evacuated urine but once and in small quantity, harassed by constant hiccup, amounting sometimes to cramp; pain of lumbar region, which was intolerably aggravated by pressure of the hand; till thirty-six hours before death pulse vigorous but slow; intellect good to the last. In consequence of great intestinal irritability, slimy evacuations were procured, at first by very minute doses, at the last they became abundant without the aid of medicine. Treated with oil, sinapisms, blisters and diluents. Took evening before death a small quantity of sub-carb. soda, which he said burned his stomach. Death took place on the eighth day from the commencement.

Examination post mortem. Contents of thorax sound; but pushed into the upper parts of the cavity by excessive convexity of the diaphragm. Liver large, slate coloured; when cut it bled freely; was attached peculiarly: instead of being fixed in the right hypochondrium, it adhered to the diaphragm at the epigastrium, as if dislocated from the side to the middle; it was lodged in the centre of the cup of the diaphragm, and occupied a great portion of the cavi-

ties of the chest. This elevated position in the chest will not be attributed to accidental fulness of the bowels or constriction of the abdominal muscles, but to natural deficiency of space in the chamber of the abdomen, and greater expansion of the ribs than is usual. The whole abdominal contents were thus pressed upwards by the adominal walls, so that the outward figure presented the appearance of having been tightly corseted. The gall-bladder contained some dark viscid bile, but was not filled as it is usually in cases which are exclusively bilious. The mucous membrane of the stomach, duodenum, and small intestines was inflamed; on holding it up to the light and stretching it, innumerable vessels were seen injected with blood and ramifying through it. These branches were more abundant about the rugæ than elsewhere; the number decreased in descending through the intestinal tube, but were quite numerous in both jejunum and ileum. The spleen presented the natural size, but was soft and muddy. Pelvis of right kidney inflamed; substance of left kidney altered, appearing and cutting like cartilage; its pelvis inflamed, almost obliterated, and containing a thin purulent fluid. I should think it had ceased to secrete. Bladder sound. Neither the stomach nor intestines contained any bile.

I consider this case to have commenced in fact after the subsidence of regular dengue, and as divided into two parts:—the bilious, in which irritation of the liver was conspicuous, and intense gastro-enteritis, in which that irritation seemed to be suppressed. The former constituted the first, and the latter the second stage of the case. As the gastro-enteritis increased, the bilious secretion and periodicity of the first disappeared. The gastro-enteritis did not reach the intense degree which effects the black exudation from the mucous membrane, as in yellow fever, though it bordered upon it; nor was the liver in the dry and bloodless condition which it usually assumes, though the suppression of the bilious secretion evinced that it was tending towards it. This case presented indeed a curious blending of the symptoms and anatomical derangements which I have so frequently observed appertained to both the yellow and bilious fevers of this city. The gastro-enteritis appears, in the first instance, to have been slight, but sufficient to kindle in the liver an irritation more impetuous probably than itself, and an activity of the secreting vessels which filled the whole body with bile: it afterwards increased, and swallowed up the hepatic irritation which it had produced, as happens in nine cases out of ten of black

vomit. Such were the ravages which seem to have arisen from what ought to have been but simple dengue, by its reflection upon vital organs, or its retrocession from external parts. Had the joints and skin been permitted in this case to be inflamed, it would probably have terminated in prompt recovery, as happened invariably when the disease was conducted through its proper course. The violent alteration which took place in its character, it is to be supposed, resulted from the careless self-management of the patient, in conjunction with a peculiar susceptibility of excitement in the vital parts affected.

As no case of regular dengue terminated mortally, it is not in my power to furnish any example of the morbid anatomy of its simple state, and to demonstrate, through this corroborating means, its gastro-enteritic character. Nevertheless, the receding case just recounted ought to suffice, since it appears to have been different from the original affection in nothing but defect of the external inflammations. It was indeed the original gastro-enteritis rekindled and aggravated, or aggravated without being rekindled, and divested of the secondary or external characteristics. The pathology of dengue thus exhibited, assimilates it curiously to three different diseases of gastro-enteritic foundation, namely, gout, erysipelas and yellow fever. By inflammation of the joints to the first, by inflammation of the skin to the second, and by absence of both these inflammations to the last. Or, in other words, gout might be considered dengue without eruption, erysipelas a dengue without affection of the joints, and yellow fever a dengue concentrated upon the bowels. Perhaps I could not communicate my view of the disease in any other manner more perspicuously than I have thus ventured to do by this threefold comparison.

If I were required to explain why dengue, being a gastro-enteritis, complicated the skin and the joints, it is quite possible, however well sustained I might be in the facts, that I should not do it with perfect success. That it was owing to the direct operation of some peculiar property of atmosphere upon the organs, or to some peculiar relative condition of sympathies impressed by climate and circumstances, there can scarcely be any doubt. The specific sympathies excited by medicines which are first made to act on the stomach, is a profound mystery. The different sympathies excited by the same medicine, in different constitutions, is just as much so. Physiology is too imperfect to serve us in this recondite matter. In

the same manner, inflammation of a part by one agent shall elicit specifically effects in other parts, which inflammation of the same part by another agent shall be incapable of producing. And what is still more remarkable, an inflammation effected by the same agent, at different times, will often, even in the same subject, give rise to different secondary results. Thus we have a sympathetic phenomenon depending on direct and specific powers of the agent, and another arising out of the state of the organs, both of which are capable of characterizing the form of epidemic disease. These phenomena are well known, and are admitted, I believe, among the best settled principles of pathology and therapeutics. Now, the sympathies or secondary affections in dengue, are obviously attributable to one or the other, and, it is possible, to both. They were produced by primary irritation of the same parts precisely, which, in other seasons, have given birth to yellow or bilious fever. But whether through the first or the last, or through both principles, it would be temerity, perhaps, to decide positively. At the same time, then, that I maintain the certainty of the pathological origin, and the difficulty of assigning any reason beyond analogy for its results, I am disposed to think that the most probable cause of those results was permanent predisposition of a novel character, and not a specific poison. I am strengthened in this impression, by the fact of the constant successions of cutaneous disease, to which we have been subject for some time, without regard to varieties of season or temperature.

The convalescence from dengue furnished additional facts in confirmation of the opinion that it was radically a gastro-enteritis. In many instances this was interrupted by transient relapses of pain at the joints, with or without fever. They proceeded from exposures to inclement weather, or from wrong diet, but generally from the latter—as luxurious compositions, wine, porter, acids—which the stomach could not digest, or which produced unwholesome degrees of excitement. I knew a person who could not indulge in the use of oranges or limes, and another who could not take a few glasses of Madeira wine, without incurring, on the succeeding day, indisposition, with foul tongue, and repetition of rheumatic pain. I knew, also, an old lady who suffered long from numerous relapses of a slight nature, in consequence of persisting to introduce into her stomach dainty articles of food—resorting to spices and pepper for condiment, and using ardent drinks for sudoric effects. By my ad-

vice she abstained from this course, took a few doses of castor oil, and soon recovered from every remnant of disease. During my own convalescence, a few ounces of wine, or any rich species of diet not promptly digestible, irritated the bowels, and immediately occasioned a return of stiffness, pain and feverish sensations. These recurrences of disease at the exterior, by obvious irritation of the mucous membrane from direct applications of stimulating substances to its surface, appear to me to place the pathology which I am defending, in a still more lucid point of view.

I have said that dengue was essentially the breakbone which we had experienced in 1826, and also in 1827. The analogy was so striking, that I do not believe we should have called it by another name, if it had not appeared in some other southern cities at the same time. The points of resemblance were, the universality of both diseases, the same gradual progress by which the entire population became involved, excruciating pain of the limbs and loins, the same species of cutaneous inflammation, singular violence and short duration of both, their common characteristic of forming but one paroxysm, red injection of the vessels of the conjunctiva, uniform recovery. On the other hand, the dissimilitude consisted in longer continuance of pain in dengue than breakbone, more exclusive confinement of pain to the joints, less debility and less tediousness of convalescence. The differences were few in comparison with the resemblances, and will be considered as unimportant. These may have arisen from slight variations in the circumstances of climate, in the same manner as trivial discrepancies sometimes occur between bilious endemics of different autumns, or as they take place at different epochs between any epidemics whatever, that are unquestionably the same.

During the first stage of breakbone, it assumed so perfectly the aspect of yellow fever, that in 1827, when cases of each were occurring at the same period, it was difficult or impossible, as already observed, to distinguish them. Both presented the red suffusion of the conjunctiva, and the red lips; and consisted generally of one paroxysm only. The degree of pain incident to the former was commonly greater, but the difference did not invariably happen; the rest of the symptoms accorded in a manner curious and surprising. You could trace the career of two contemporary cases from commencement to termination. At first the correspondence would be complete, and each would seem to be proceeding to simi-

lar conclusions, when, abruptly, and without perceptible cause, the one appeared to sweep the disturbances it had excited into the stomach, and ended in black vomit, while the other precipitated itself upon the skin, and eventuated in a fugitive inflammation. Both breakbone and black vomit were indeed in the original essentially the same morbid affection, for both were equally gastro-enterites. The former differed in its event from the latter, because the critical effort of the skin and limbs interposed, and afforded effectual relief to the stomach. Without that interposition, we have the strongest reason to think that the progress and catastrophe would have been the same.

In the course of this season, also, cases of breakbone and black vomit presented the singular circumstance of being mixed with a much greater proportion of remittents and intermittents, but particularly of the latter. These were numerous and generally distributed, while those were sparse and preferred the locality of certain wards. This diversity of forms, evidently arising from a common miasma, is very remarkable, no matter how it be accounted for. The black vomit and breakbone might have amounted to the number of fifty cases. No native I believe died of the former, though several had been residents of long standing, or had passed through the great epidemics of former years. I have recorded among my notes the case of a respectable mechanic, who had resided permanently in the city for a length of time. He had been occupied in superintending the erection of a saw-mill upon the neighbouring low grounds, where it was his custom to spend the day only. If he had contracted bilious fever of a violent grade, it would not have been matter of surprise, as he was subject to the precise causes which produce it. But he sickened with the worst degree of yellow fever, and died of black vomit, a form of disease peculiar to the city, and never generated by marsh effluvia alone, as far as observations made have extended. He imbibed the city disease, against which he might have been expected to be acclimated, and escaped that which pertains to the country, to which defect of habit ought to have subjected him. No one imagined, nor was there ground for suspecting, that either black vomit or breakbone had originated in contagion. Individuals were affected, whose modes of life were such as rendered this impossible. I attended one lady with yellow fever, who had been so constantly confined to her apartment that she could not have contracted it from another.

I attended another lady who was a native, but had been an absentee for some years; she was attacked with breakbone, although scrupulously secluded for security against the prevalent diseases, and could not have been infected by personal communication. There was a family of my friends, in which several cases, differing in character, occurred. The gentleman was first taken with chill, and subsequent violent hot fit. During the paroxysm he swallowed an excessive dose of oil, which, together with the disease, considerably reduced him. Nevertheless, a total suspension of fever took place, and he was promptly cured by frequent administrations of sulph. quiniæ in 3 gr. doses. This case would probably have assumed the intermittent type if it had been allowed to continue. At the same epoch, a woman, who, in consequence of disordered imagination, had not gone into the street for many weeks, was taken, while labouring under fever, from a neighbouring house, and introduced into this family, to be properly nursed. She complained of pain about the abdomen, particularly in the region of the uterus or bladder, of tenderness at the epigastrium, when pressed upon by the hand; and she seemed to be very nervous. Soon after, the eyes became red, occasional vomiting took place, and some coffee-coloured floculi were discharged. I considered this patient as affected with desperate yellow fever, and her case beyond remedy; unexpectedly, however, she got well under a treatment with sulph. quin. in exorbitant doses. Before this woman had entirely recovered, the black girl who officiated as her nurse was seized with the excruciating pain, single intense paroxysm, and acquired the injected eye of breakbone fever. By administering some aperient medicine, she recovered completely, but was extremely prostrated. The lady of the family now sickened with fever; the symptoms were such as accompany a common febrile attack, except that the vessels of the conjunctiva were filled with red blood. She suffered with excessive tenderness of stomach, so that scarcely any thing she swallowed was retained. On the third day, the skin became deeply jaundiced, the pulse slow, as when black vomit has made its appearance, and death ensued on the fourth day from the commencement: black matter was said to have been thrown up, but I did not see it, nor could I vouch for it. Immediately after the dissolution of this lady, an attendant black woman contracted fever, and although her case was longer, was divided into paroxysms, and she was more intensely ill, the symptoms exhibited were very similar to those pre-

sented in the instance of the black girl's above mentioned. About this period, also, the son of the deceased lady, a boy of five years, was taken with fever; the active symptoms soon subsided into that species of tranquillity which usually attends black vomiting; the eyes became red, and the bowels sensitive when pressed. Instead, however, of ejecting any black fluid from the stomach, that organ remained entirely passive, and large quantities of grumous blood were discharged per anum. The discharge of blood continued for about a week, and the patient's health, although slowly, was finally re-established. After the restoration of this boy, as if the afflictions of the family were destined to be perpetual, a little girl, the sister, was assailed by fever of double tertian type, but she soon recovered under the operation of some mild evacuants. At a residence on the opposite side of the street, and distant a few yards only from that of which we have related the above particulars, another singular group of cases took place. A gentleman, his lady, and two servants, were successively seized with fever. The servants were affected with one long paroxysm, accompanied by pains, which gradually wore off under the influence of castor oil. The lady was attacked with excruciating pain in the left hip, which continued for some hours before the fever appeared. She then had a single hot fit of unusual duration, with pains in other parts of the body, together with inflamed eyes and eye-lids, which were all concluded by a transitory eruption upon the skin. This was as true dengue as ever occurred in 1828. The gentleman was soon after taken with fever in the ordinary way, an intense hot fit followed the collapse, but there was no pain except in the head. The eyes were at first irritable and red, but afterwards, in conjunction with the skin, assumed a deep yellow hue. This case lasted four days without manifesting any appearance of periods. I consider it to have been yellow fever complete in every point but black vomit. The jaundice continued for three weeks after the extinction of fever, and probably constituted a critical revulsion, as the eruption had done in the previous case of the lady. Numerous other groups of intermittent, remittent and yellow fever, breakbone or dengue, took place during this season, which it would be needless to recount, but which were decisive of the common and local origin. As regards yellow fever, breakbone and dengue, the remote cause confined itself to the boundaries of the city proper. These began to prevail about the first of September, when north-east winds usually

predominate; and terminated under the effect of frost. Not one case is known to have originated upon the plantations, and although some persons after having imbibed them went into the country, it is not ascertained that they propagated them in a single instance. These facts conclusively finish the argument, it appears to me, against the suspicions of contagion or importation. It is curious to observe the propensity of every community to attribute diseases of a novel or grave character to a foreign source, and to cast on others the misfortune of inhabiting the place of their birth. Some time since I was conversing with a gentleman from Cuba on the subject of dengue, and he informed me that it was supposed by the people of Havana to have been brought among them from the windward islands, and that they believed as little in its production there, as the citizens of Charleston appear to believe in its original production among them.

The treatment applied to the epidemics of 1827 and 1828 by a majority of the physicians, was what we consider to be thoroughly sedative. Moderate evacuations with oil or Epsom salt, for the limited purpose of emptying the bowels and expelling unwholesome feculences, together with absence from irritating drink and food, constituted the prominent remedies for dengue. They assisted to consummate the critical act by reducing gastric and intestinal excitement; and by precluding reiterated inflammations of the mucous membrane, they removed the chronic pains which sometimes infected the joints. The pathology which has been sustained obviously dictated this method, and the practice confirmed its correctness by the uniform success which attended it. Those who adopted it promptly recovered from the acute attack, and those who persisted in its use while any sequelæ existed, were expeditiously and certainly relieved. At least *two-thirds of breakbone, as well as dengue*, were thus managed, and as far as I am informed, were all terminated well, and speedily as could have been reasonably desired. This course promoted the production of the secondary sympathy of the skin and extremities, by preventing a greater degree of inflammation in the mucous surface than was compatible with its transposition. For it is now a principle well understood, that in the exanthemata, there is a certain point of excitement, which comports with the translation of the disease from the interior to the exterior, and that every *augmentation* or *reduction* of it erects an obstacle to this result. Infusions of serpentaria and red pepper, or ginger and al-

cohol, in various shapes, were resorted to by some persons, but I did not see a single individual who had been treated in this way who did not exhibit evidences of having been injured. An idea has been promulgated abroad, and it has been entertained by not a few, that this figment of the BROWN medicine predominates in the general practice of this city. Nothing can be more erroneous; antiphlogistic remedies are adopted, either in the fact or the intention, by five-sixths of the respectable faculty, in almost every form of fever, except the intermittent. I have several times heard with some surprise, of the existence of this singular mistake, and have regretted it not so much for ourselves, as for the interests and advancement of the art. For it is undoubtedly an argument of no inconsiderable weight, that a body of medical men properly educated, and having time, place, and opportunity to judge, should unite in one opinion on a point of practice. It is an argument of no trivial influence upon the theoretical as well as the practical part of medicine, and is competent to overturn principles as well as to change remedies. It is better than dozens of scholastic dogmas; and had it a real foundation in the present case, would be worth all the consideration of the opponents of the actual leading doctrines.

*(To be continued.)*

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ARTICLE XII.—*Observations on the Endermic Application of Medicines. By* WILLIAM W. GERHARD, M.D.

The science of medicine has recently received an important auxiliary to its resources, by the discovery that remedial substances, when applied to the cutis, after the removal of the epidermis, produce their peculiar effects with nearly the same energy as if introduced into the alimentary canal. This mode of exhibition, which has received the name of the endermic method, or endermic medication, is always found much more efficacious than the Iatraleptic method of CHRESTIEN, or the administration of medicines by means of frictions upon the cuticle.

Dr LEMBERT, without possessing the undisputed honour of the discovery, has at least greatly extended its therapeutical applications,

and, although unable to procure his work, I am indirectly indebted to him through the brief notices of the Journals, for the outlines of this essay. The little attention paid to so important a subject by the practitioners of this country, induced me, after witnessing the striking benefit of a single remedy administered in this manner, to extend my inquiries to most of the active medicinal agents. A short account of the general results and modes of administration may, for the same reason, with propriety precede a detailed description of the cases and remedies, as applied to the treatment of particular diseases.

The more general introduction of this method into practice will, undoubtedly, be found, in many instances, of eminent utility in the management of disease. Every practitioner of the least experience must be perfectly aware, that inflammation of the stomach or intestines, is either the cause or the accompaniment of many of the most embarrassing diseases with which we have to contend; and that the remedies on which we are accustomed to rely cannot in many cases be employed, owing to the alarming irritation following their use, so that an otherwise salutary revulsion may be converted into an irritation, sometimes more dangerous than the original disease. Intermittents are frequently complicated with gastric phlogosis, or, in accordance with the doctrines of a celebrated school, derive their origin from periodical irritations of the primæ viæ. Under such circumstances, the cinchona, though entirely efficient in preventing the return of these irritations when perfect intermission from febrile symptoms can be procured, becomes a stimulant, acting directly upon the mucous membranes, and thus transforming a simple intermittent into a continued fever. Dropsical effusions frequently arise from chronic inflammation of the intestines, and ascites is sometimes caused by the direct transmission of diseased action from the mucous to the peritoneal coat. In these cases, drastic purgatives, or even the ordinary diuretics, produce so intense an excitement as entirely to preclude their exhibition; and the patient must be abandoned to his fate, without the alleviation to his sufferings that medicine might afford.

The endermic method of exhibiting these medicines is often admissible when no other mode of administration is practicable; and their success may be anticipated with as much confidence as if prescribed in the usual manner. Equal benefit has resulted from the employment of narcotics, in cases in which opium could not be sup-

ported in any of its ordinary forms, and when the sulphate of morphia no longer acted as an anodyne. Purgatives and emetics, though less frequently necessary, may often be applied with advantage to the external surface; other remedies may also be found sometimes equally applicable.

All medicines are not alike suitable for endermic medication: substances of little activity, which must be administered in large doses to produce a slight action, or such as contain a large proportion of inert matter, are inadmissible. Powerful chemical irritants which cauterize or violently inflame the cutis, we have found equally improper. The more active vegetables, or their extracts, and some of the tinctures, may be used with great propriety; but no remedies are so well adapted for this purpose as the vegetable alkalies, which form the active principles in so many of our heroic remedies. The small quantity requisite to produce their full effect, enables us to apply them to a very small denuded surface.

Those medicines which are dry, I have sprinkled upon the part in the form of powder; but if moist, and not easily pulverized, they should be reduced to the consistence of an extract, and gently spread upon the surface, or on a piece of linen, which may be laid upon it. Fluids I have used as a lotion, or by the application of compresses which had been previously soaked in them. Oily substances, and sometimes powders, may be incorporated with cerate, and substituted for the usual dressing. A more powerful effect I have, however, always found produced by the direct application of the substance, unless much irritation should ensue, when dilution with an inert material becomes indispensable.

Of the many methods of detaching the cuticle, I know of none more convenient and less painful than by the action of cantharides. Blisters, therefore, should always be used, and their action hastened and rendered less irritating by the application of soft poultices. The size of the blister must vary according to the substance to be applied. A very small one is sufficient when the dose of the medicine is not large, and it is not desirable to continue its action for a very long period. Where the blister was applied solely for the purposes of endermic medication, I have usually found a surface of about four inches square the most convenient. It is unnecessary to detach the cuticle entirely at the first dressing; a small portion may be carefully raised and the medicine inserted beneath; or it may be placed upon the epidermis after the discharge of the serum.

At the second dressing, the cutis becomes less irritable, and supports the immediate action of the remedy with less pain to the patient. When a continuance of the medicine is necessary, the remains of the former dressing must be removed by gently pouring some warm water, or soap and water, upon the surface. I have not found the chloride of lime or other irritants to be in any case necessary. The remains of the substance applied are much less than the original quantity, and sometimes no trace of it can be perceived, the whole appearing to be absorbed or mingled with the secretions. The usual dressing should be laid over the part, or the cerate, moderated by the addition of a portion of the medicine, may be used as an adjuvant to the more efficient preparation.

The dose of medicinal substances is of course rather greater when applied by endermic medication than when exhibited in the usual manner. Many medicines, however, under favourable circumstances, whether administered internally or externally, appear to produce equal effects in like doses, though this result is not always to be expected. Double or treble the usual dose should generally be exhibited, though a much larger quantity may be borne without inconvenience.

Immediately after the application of an active agent to the cutis, considerable pain, of longer or shorter duration, is felt in the part. At this time, the action of the medicine is generally that of an ordinary incitant. This local irritation is perfectly distinct, and unconnected with the specific effects of the medicine, which it tends to counteract instead of aiding: on this account I have rarely found the most irritating drastic remedies successful, when applied externally. Croton oil and elaterium failed, while aloes, though ordinarily less active, purged violently; tartar emetic, and other mineral substances, afforded very unsatisfactory results. Soon after the application of the medicine, the patient frequently experiences a sensation of warmth, proceeding from the part towards the interior of the body, and prior to, or accompanying the usual operation of the remedy. Whether this arises from mere irritation, or from absorption, is difficult to determine; it does not, however, occur at all times, nor with all applications. The energy with which medicines act upon the cutaneous tissue is greatly influenced by the part of the body to which they are applied. When the cutis is thick and at a considerable distance from the vital organs, little effect results; the parts most abundantly supplied with nerves and blood vessels,

and the anterior parts of the body in general, are peculiarly adapted for these impressions; but I have found the epigastrium to be by far the most appropriate place, and the observations here made are, in most cases, based upon the results that have been obtained in this manner. The anterior parts of the neck and thorax answer nearly as well; and the internal portions of the thighs and arms we have often resorted to with manifest advantage. The back, or the extreme parts of the limbs, are by no means so suitable, and do not often possess sufficient powers of absorption for endermic applications. Any part of the body, which may be contiguous to the seat of a local disease, or to the organ on which the medicine is destined to act, should, however, be preferred to the more remote, although more convenient situations.

It will be readily understood from the description already given, that the endermic application of medicines must be inappropriate, if the patient should be of so irritable a temperament as to be unable to support the pain which necessarily attends the use of the medicine, and the previous action of the blister. Excessive corpulency, pregnancy, or great debility of the whole system, appear to diminish the powers of external absorption in the individual. The following cases and observations include the most important classes of medicinal substances and their endermic operation, particularly as applied to the treatment of diseases: the results obtained, whether successful or the contrary, will be found under their appropriate sections.

The series was commenced in the month of July last, and embraces the deductions from nearly two hundred cases. A sufficient number of observations has, therefore, confirmed the accuracy of the results, and may justify a trial by those better fitted to judge of their utility in practice. The situation which I lately held of resident physician at the Alms-house Infirmary, has furnished me with very frequent opportunities of applying the remedies, indicated for the disease, to an external surface; and the friendly assistance of my colleagues, especially of Drs Carter, Cenas, Duane, and Morton, has greatly extended the list. Although the endermic application of many medicines was by no means a novel practice with Dr Jackson, yet the favourable effect manifested in some of these cases led him to a more frequent recourse to it, and several of the most interesting and appropriate instances were selected from those under his immediate superintendence.

*Tonics.*

Endermic application of cinchona.

My observations have been confined to the preparations of cinchona, as affording the best examples of the most concentrated and powerful tonics. The sulphate of quinia has been very frequently administered as an endermic remedy. When applied to the inflamed cutis, it powerfully stimulates the surface, causing pain, which may continue for a few minutes, or for a much longer period, according to the susceptibility of the individual. The pulse of the patient is excited, and if examined a few hours after the application, it will be found more full and frequent, but rarely rising of a febrile character. The permanent tonic effects do not differ from those usually observed; the appetite increases, the health of the patient becomes more vigorous; and in fine, the dry red tongue rarely follows intermittents, if treated by quinia externally administered.

In the Alms-house, it has for a long time been the established practice, to dress the blisters of patients exhausted from severe disease with the sulphate of quinia, and the permanence of the practice sufficiently attests its apparent efficiency. The quantity in which it should be applied as a mere stimulant is large; from four to twelve grains. As a febrifuge the use of quinia is of very recent date, except by the internal mode of exhibition. The more ancient preparations of bark, as well as the powder, were sometimes placed in contact with the cuticle; but the entire inertness of the practice only subjected it to ridicule. The importance of the subject, and the little attention which has generally been paid to it, induced me to investigate it with particular care, and the results were in every respect most satisfactory, proving that the cure was as perfect and as speedy, and sometimes more easily effected than by the ordinary method.

Upwards of twenty cases of intermittent fever were treated by the sulphate of quinia applied externally, and with the most perfect success, excepting in three or four cases, where, from accidental causes, its use was discontinued before the period of the paroxysm. Of this number nine were tertian, the remainder quotidian, including all the cases of which a connected history could be obtained. In twelve instances, there was no return of the chill after the first applications; the others were rarely attended by more than one paroxysm, and never by a third, excepting in a single instance, where

severe attacks supervened before the entire removal of the disease. In every case, however, each succeeding paroxysm was marked by a great diminution of its intensity and duration. The average quantity of quinia applied before the chills were arrested, was about twenty grains; although it varied in the different patients from eight to one hundred and twelve. Some absorption certainly appeared to have taken place, for only a small residue of the quinia remained at the subsequent dressings, and sometimes no trace of it could be perceived. The blister was always applied during the apyrexia, and if the paroxysm appeared before the first application could be made, it was postponed until its termination. Whenever either the blister or the quinia was in actual operation during the fever, it always seemed to produce increased excitement, although in some notices of similar cases treated by an Italian physician, it is stated that this effect did not take place. The quinia was generally used in powder, either alone or diluted with some mild substance, and sprinkled upon the surface; sometimes it was incorporated with cerate, by which less pain was produced. The disease was arrested more quickly in the majority of males than in females. Was this a mere coincidence, or did it depend upon greater powers of absorption? It was remarked by most of the gentlemen who adopted this practice, that the quinia cured more speedily in this form than when given internally, and that the permanence of the cure was at least as great; for in either case it is necessary to continue the treatment for some days after the cessation of the paroxysm, in order to secure the patient against its recurrence. I have generally found it most convenient to omit the external use of the quinia two or three days after that period, and commence the internal exhibition of two or three grains, daily, as a prophylactic. The ordinary treatment employed at the Alms-house, such as bleeding in the hot stage, with a mild cathartic, was not neglected. The following cases are selected from many others, in order to show the varieties of the disease, and the necessary modifications of treatment.

*Case* 1. Thomas Duffy, aged thirty-seven, a labourer of intemperate habits, admitted July 9, 1829. Last April the patient was attacked with intermittent, and cured; but relapsed six weeks ago. Since that period the disease has continued with daily paroxysms. The tongue is furred, bowels constipated. Ordered a purgative in the afternoon; a violent fever followed the chill: ordered venesection and cold applications to the head. 10th. Apyrexia: a blister four

inches square was directed to be applied to the epigastrium. Two hours after the application, a chill came on, followed by fever. Evening; apyrexia: three grains of the sulphate of quinia were then sprinkled upon the blister, mixed with starch. 11th. Is free from fever: two applications made this morning; dose the same as last evening. Tongue improving, bowels open; pulse very little excited; quinia discontinued until evening. No chill. 12th. Skin moist, but warm; pulse 100. His diet, which had been moderate, was now still more restricted. One application of the quinia made, when it was finally discontinued. 14th. Entirely recovered; blister nearly healed. One grain of quinia to be taken internally twice a day for two or three days. Discharged, well. This case is an example of the ordinary intermittent. Nine grains prevented a return. The other cases of this kind presented a similar character. The quantity was rather less than I usually applied, the ordinary dose being four grains, four times a day.

*Case* 2. Ruth McKaig, aged twenty-five, of intemperate habits; admitted September 13th. She has had intermittent since the 6th; at first a quotidian, but for the last three days a tertian: the chill occurring about day-light in the morning. Was admitted during the hot stage: high fever. Ordered venesection ʒ xvi; cold sponging of the surface; ice to the head; absolute diet. Some fever continued during the interval. 15th. Another chill this morning: the cold stage lasted upwards of an hour, and the fever terminated about the middle of the afternoon, when an ounce of magnes. sulph. was given: at eleven P.M. pulse 112, bowels open, tongue slightly furred, skin soft. Ordered a blister five inches square to the epigastrium. 16th. Nine A.M. Pulse 102, rather feeble; four grains of the sulphate of quinia were sprinkled upon the blistered surface, without entirely removing the epidermis; two hours afterwards the pulse had risen to 112, with much more force: at four P.M. pulse 104, less excited; four grains applied, raising portions of the epidermis. At eight A.M. pulse 112; four grains again applied, and cerate mixed with quinia used as a dressing. 17th. The remainder of the cerate was applied this morning, the whole having contained twelve grains; a chill however supervened, though later than usual, and with less severity; headache and fever followed. Ordered venesection ʒ xiv; soda powders and cold applications: no quinia exhibited after the chill. 18th. Pulse 102, skin rather cool: three grains of quinia applied three times a

day. 19th. A slight sensation of coolness instead of the chill; very little fever: four grains applied four times. 20th. Apyrexia; applications as yesterday. 21st and 22d. Two applications each day; dose as before: patient entirely recovered; no chill after the 19th. Too much irritation existed in this case at the time of the first application; had another period been allowed to elapse, a more perfect intermission might have been procured.

*Case* 3. Mary Lonton, aged 20. Temperate habits. Admitted November 11th. Nine days since she was attacked with fever, which soon assumed an intermittent type. Has a chill daily at eleven o'clock, A.M. November 11th. Full, tense pulse, headache, &c. Ordered venesection ℥ xvi. seidlitz powders. 12th. Some fever during the interval; acet. ammon. Chill at eleven o'clock, venesection ℥ xiv. during the fever. Afternoon: no headache, cool skin, sulph. quinia one grain every three hours during night, and every two hours next morning. 13th. Chill at the usual time; paroxysm less violent, apyrexia tolerably perfect; no headache, cool skin, pulse 86. Quinia, one grain every hour. 14th. Chill again, but of rather shorter duration; seidlitz powders. Complains of tightness at the epigastrium. Ordered cups; and the quinia every two hours. 15th. Tightness at the epigastrium returned. Missed her chill for the first time. In the afternoon she was found in convulsions, to which she is subject, and which are always preceded by a sensation of tightness: pulse firm; venesection ℥ xvi. sinapisms: enemeta of senna tea. 16th. Pulse 104; feels better, no uneasiness at the epigastrium, cool skin: sinapism; dry cups to the back of the neck. Chill at the usual time, at eleven, P.M. pulse 86. Quinia every two hours during night. 17th. Chill returned with headache, pulse 94, dry skin; stop quinia. At half past ten o'clock, A.M. Dr Jackson saw the patient, and directed a blister to the epigastrium, and quinia to be used as an endermic application: six grains were applied at eight P.M., six grains during the night, and the same quantity next morning. 18th. Pulse active; headache, but diminished in the evening: quinia continued; no chill. 19th. Slept well, scarcely any pain in the head; pulse 104, cool skin; moist, but slightly furred tongue. No chill at the usual time, but returned at seven P.M., with some headache; no tightness at the epigastrium; quinia dressings continued in the former quantity. 20th. Restless night; less headache, but complains of pain from the application: bowels costive; quinia reduced to two grains

three times a day, and mass. hydrarg: gr. v. rhei. pulv. gr. xv. *m.* to be given in pills: no chill. 21st. Very slight chill at seven P.M.; continue applications. 22d. Slept well; no headache; cool skin; moist tongue; pulse 80; bowels open; she has no chills; pulse natural; a little tightness at the epigastrium: no change in treatment. 24th. Tightness at the epigastrium; pulse 80; skin cool; blister nearly dry; quinia now suspended. At noon a convulsion came on: the usual remedies were employed, and the disease was perfectly removed in the evening. No medicines were administered after this period, as the patient was entirely convalescent, and recovered without another unpleasant symptom. This case is very interesting, as it illustrates the great practical advantage to be derived from the endermic treatment of intermittents. Although the quinia had been given with the greatest caution, all the symptoms were materially aggravated; but the same remedy applied externally, even in an irritable subject, immediately converted the quotidian into a mild tertian, and in a short time effected an entire cure. Another patient in the ward at the same time, was treated with the most perfect success in the manner just described, after a fruitless internal administration of the ordinary medicine.

*Case* 4. Samuel Henry, aged twenty-two; admitted September 25th, with quotidian intermittent of long standing. Early in the morning he had a severe chill. A blister was applied, after the fever, and directed to be dressed with four grains of quinia four times a day. 26th. At eight, A.M. a severe chill with slight fever. Continue the dressings as yesterday. 27th. Chill at ten, A.M.; severe paroxysm; treatment continued. 28th. No chill; applications as formerly. 29th. Chill at twelve; no change. 30th. A slight chill at noon; treatment the same. October 1st. A slight chill at two, P.M. 2d. A sensation of coldness, but scarcely a chill at the same hour as yesterday. 3d. No chill; quinia continued to day as usual: the dose has been the same since the commencement of the treatment. The patient continuing perfectly well, no farther applications were made.

This case was the most obstinate I have met with, but proves very satisfactorily the power of the medicine in retarding and mitigating the paroxysms. The quinia succeeded perfectly in some cases in which it was applied to the breast, in consequence of a blister originally placed to remove some pectoral affection. In two cases it was applied to the inside of the arm; but although it ar-

rested the chills, a disposition to fever seemed to arise, and continued for some days, without indeed serious inconvenience to the patient. My experience, however, on this point, has not been sufficient to enable me to form any general deductions. Dr Jackson informs me that he has applied the quinia to the inside of the thighs, with great advantage, in a case of intermittent.

The extract of cinchona, prepared by the Messrs Wetherills of this city, as it possesses the active properties of the bark in a very concentrated form, and may be readily reduced to the semifluid state, is well adapted for endermic application.

*Case* 5. Elizabeth M'Donald, aged thirty; admitted October 2d, with quotidian intermittent; a blister was applied to the epigastrium after the termination of the paroxysm. 3d. A severe chill this morning; after the fever, ten grains of the softened extract were spread upon the cutis, under portions of the cuticle which were carefully raised. 4th. A slight chill. Two applications of ten grains each were made during the day. 5th. No chill; one application in the morning. 6th. No chill; one application made. 7th. Treatment continued, but no further dressings were used. 9th and 10th. Patient perfectly well; but two grains of the extract were given internally twice a day, to ensure her entire security. Discharged October 10th. The other preparations of bark, although less energetic, would undoubtedly succeed, unless the dose should be too large. I cannot, however, speak from my own experience; my observations having been confined to those already mentioned.

(*To be continued.*)

# Quarterly Summary

OF

# Medical and Surgical Intelligence.

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## I. ANATOMY.

1. *Nerves of the Placenta.*—We find in the *Journal des Progres*, a paper on the nerves of the placenta, accompanied with a beautiful lithographic drawing, exhibiting the results of examinations made by Mr Bauer under Sir Everard Home's directions.

[This paper is translated from one by Sir Edward Home, in the Philosophical Transactions for the year 1824, and as we have it not at hand in the original, we shall make use of the French copy. The subject is still sufficiently novel to engage the interest of our readers.]

Sir Everard's researches on the incubated egg, led him to suppose the arteries are developed under the influence of nerves, and he accordingly engaged Mr Bauer to investigate the subject, with the aid of those wonderful lenses which have given such eclat both to him and his patron.

Mr Bauer was furnished with the placenta of a seal preserved in spirits, and as the vessels of the cord are not twisted in that animal, he would have a better opportunity of ascertaining the existence of nerves if they should really exist. They would have lost, also, their transparency by the coagulating power of the spirit, and consequently be less apt to escape observation. That gentleman did discover nerves accompanying the vessels of the cord, and also found and exhibited them in the uterine portion of the placenta.

Mr Bauer also demonstrated the nerves in the chorion of the tapir, a pregnant uterus of which animal had been sent to Sir Everard Home from Sumatra by Sir Stamford Raffles.

The principal object of the memoir is to show that nerves exist in the placenta, and that in animals which have no placenta, but only a flocculent chorion that supplies its place, the nerves not only exist, but are even more abundant than in others. An example of this is exhibited in the beautiful drawing of the chorion of the tapir.

The number, various origin, and different ganglions of the uterine nerves, are proofs of the great importance of their functions. Sir Everard Home gives extracts from an account of dissections of the uterine nerves by Mr Cæsar Hawkins, from which we select the following.

In women the uterine nerves are derived from six plexus, which are the spermatic plexus in the abdomen, the great hypogastric plexus, situated between the primitive iliac arteries, and from four in the pelvis, two of which are found on each side of the uterus.

These nerves in the bitch, the cat, the rabbit and hedgehog, closely resemble those of the human uterus.

Sir EVERARD HOME thinks that the discovery of nerves in the placenta leads fairly to the inference, that the brain of the fœtus has a real nervous connexion with that of the mother, may serve to explain why children have been born, affected with small pox and with intermittent fever; and that we should be no longer astonished at the birth of acephalous fœtuses, since the nerves of the mother have had an intercourse with the organs of the monster. The influence of moral causes affecting the mother, and extending to her offspring, need no longer be considered as wholly unintelligible.

He relates the case of a mare whose first foal was the product of an union with the quagga, (equus quaccha), and she afterwards had three foals by Persian stallions, all of which foals were marked by the peculiarities of the quagga. Sir EVERARD gives several other examples of the influence of parents on their offspring, which are less interesting than the one above.

2. *Urachus.*—Dr HOFMEISTER, in the Zeitschr. fur Nat. und Heilk. Vol. V. No. 3, relates the history of a singular case. A boy two years old had at the navel a fleshy excrescence which was fungous, red and pedunculated, through which the urine escaped whenever his body was bent backwards. The canal of the urethra was quite pervious, and admitted of the passage of urine. The pedicle of the fungus was secured with a ligature and fell off; the part was cicatrized, and the urine ceased to flow through that channel. It was thought to be the remains of the urachus.

3. *Mummies.*—M. ADELON read to the Institute a report from M. PARISET, in the name of the Medical Commission sent to Egypt. It is dated at Damietta, April 23, 1829. The commission has concluded, from its researches on mummification, that this practice had originated as much from views of public health as from motives of religion. Indeed, the custom of mummifying bodies was extended to animals as well as to man. From Assouan to Thebes, complete mummies of fishes are found in several grottoes. Mummies of apes, enclosed in stone coffins, have been discovered in a very deep valley. The remains of dogs, wolves and jackalls, in vast numbers, have been found in many grottoes excavated in a mountain near Syout (Lycopolis). A grotto, several leagues in length, and known by the name of *Samoun*, attracted the particular observation of the commission. This grotto, placed on the plateau of the Arabian chain, three leagues from the right bank of the Nile, is divided into a multitude of halls, filled with an immense quantity of the mummies of crocodiles, of all ages and sizes, from the embryo state up to the length of twenty-five feet. The vast number of these remains induces M. PARISET to believe that a war of extermination must have been carried on against the animals; and he supposes that mummies were made of the bodies of men and animals, in order that the earth of Egypt, not mingling with such putrescible materials, might retain its salubriousness.

4. *State of the Uterus eight years after the performance of the Cæsarian Operation.*—The operation had been performed eight years before by Dr WALTHER; the uterus was of its natural form and dimensions. At the external surface of the anterior parietes, a furrow three lines in length, indicates the place where the incision was made; the peritoneum is very firmly adherent to it.

The edges of the wound were contracted and turned in. The inner cicatrix was lower down, and half an inch longer than the outer one; it extended as low as the neck. The anterior parietes of the uterus in the neighbourhood of the cicatrix was three lines thick; the posterior parietes

opposite to it was four lines. The cavity of the uterus was perfectly natural, except that there was a very thin fleshy polypus at the neck. The left tube and ovary were perfectly natural; those on the right adhered to each other by plastic lymph.

The account of the uterus above described is given in GRAAFE and WALTHER's Journal by Mr MAYER of Bonn.

5. *Lymphatics and Veins communicate with each other.*—At the Royal Institute of France, on the 17th of August, M. DUBLED announced by letter, that he had filled the lower two-thirds of the thoracic duct and several lymphatic vessels by injecting the lower cava. He found it necessary to produce a considerable distention of the cava in order to obtain this result. He also made the following experiment. He tied the vena cava just below the diaphragm in a living animal; several hours afterwards he found blood in the thoracic duct and in some lymphatic vessels.

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## II. PHYSIOLOGY.

6. *Abnormal Menstruation.*—We obtain from the *Nouvelle Bibliotheque Medicale*, the following account of abnormal menstruation, which was published in HUFELAND's Journal.

A woman ceased to menstruate at forty-four years of age, and became perfectly regular again at seventy-four. A woman aged sixty-one was still regular in menstruating, although she had begun at the age of thirteen years. She had not conceived for more than twenty years. She applied for medical advice on account of loss of strength. She took every day, for three months, two grains of alum, three of nitrate of potassa, and one-tenth of a grain of opium, sometimes with sugar and canella, sometimes in solution: the catamenia gradually diminished without occasioning any inconvenience in regard to her health. A Jewish child, eight years old, had discharged for three days about three dessert spoonfuls of blood. One drop of HALLER's acid elixir, half an ounce of distilled water, and the same quantity of syrup of canella, taken in doses of a dessert spoonful morning and evening, occasioned this premature menstruation to cease without affecting the child's health.

7. *Longevity.*—M. BENOISTON de Chateauneuf, has given another memoir on this subject, from which it appears, that to extinguish one half of a complete generation, 20 years are required in Provence, 20 at Amsterdam, Brussels and Tournay; 24 at London; 28 at Geneva; 29 in Sweden; 30 in the county of Nice; 32 at Paris; 39 in Scotland; 40 in the Pays de Vaud; 46 in le Quercy.

There is always a great want of accuracy in such results, because the tables on which they are based are mostly made out from the large cities, whose population is ever changing; and the children who are sent out of the cities, especially the foundlings at Paris, are not assumed as furnishing a part of the calculations; they would furnish a considerable item of mortality at Paris.

8. *Aromatic Principle of the Blood.*—M. BARRUEL, in the *Annales d'Hygiene Publique et de Medicine Legale*, April 1829, informs us, that some years ago, when he was assisting M. VAUQUELIN, he remarked that when sulphuric acid was poured on the crassamentum of ox's blood, a strong odour of a cow-house was exhaled. Since that period he found that when sulphuric acid was boiled in a matrass with human blood, it gave out the odour of the sweat of the human male so much concentrated as to compel

him to quit the apartment. The former fact being by this circumstance recalled to his memory, he instituted some new experiments.

He found that the blood of every animal contains a peculiar aromatic principle, which has the same odour with its sweat and pulmonary exhalation, but when its natural state of combination is broken up, it becomes volatilized, and the species of the animal may be recognized by the odour. The odour is strongest in males; it may be obtained from the entire blood, or after the fibrin is separated, or from the serosity.

The best mode of developing the odour is to pour a few drops of blood into a wine glass; to add from a third to one half its volume of concentrated sulphuric acid, and stir it with a glass rod; the odour will be at once disengaged.

Experiments on the blood of man, the cow, the horse, the sheep, goat, dog, pig, rat, chicken, turkey, duck and pigeon, all resulted in the development of the odour peculiar to each of these animals. A frog's blood gave the odour of marsh rushes very distinctly, and that of the carp the odour of a fish's slime. Blood dried on cloth could be made to give out the peculiar odour fifteen days afterwards, by moistening the cloth and adding the acid.

The French physicians do not all agree with M. Barruel. M. Raspail denies the accuracy of his statements altogether. M. Villeme was equally unsuccessful. M. Leuret agrees with M. Barruel in almost all points, and so does M. Chevallier. M. Leuret sent to M. Barruel the blood of a man, a woman, a horse, and an ox, each in separate phials, numbered. M. B. distinguished the two last, and pronounced the woman's blood to be that of a man, and the man's blood that of a woman; but in this case it happened that the woman was dark and of a strong frame, while the man was a delicate and beardless individual. M. B. says that women who have black hair exhale the odour more strongly than light haired men.—*Ed. Med. and Surg. Journal, January* 1830.

9. *Wedemeyer on the Circulation.*—We have not seen this work; and have therefore to content ourselves with a review of it in the *Archives Generales*, from which we have abundant means of selecting such parts as may exhibit the author's sentiments.

In regard to the part taken by the large arteries in the mechanism of the circulation, Dr Wedemeyer asks:—1. Are the arteries furnished with muscular fibres? Are they endowed with irritability, or vital contractility, by means of which they can influence the progressive movement of the blood?

1. Haller, Laugenback, Hunter, Verschuir, Soemmering, Blumenbach and many others, have maintained that the fibrous coat of an artery is of a muscular nature, an opinion which has few supporters in the present day. Mr Wedemeyer says, that instead of being reddish, soft, extensible during life, and very fragile after death, like real muscular fibre, the middle coat of an artery is, on the contrary, yellowish, hard, resisting, and very elastic, even in the corpse, and that the vasa vasorum are not distributed in the same manner as in muscular fibre; it contains no fibrin; does not contract under the influence of galvanism, nor of any other irritant. And finally, that its tendency to osseous degeneration, shows it to be different from muscles, not subject to such changes, and allies it to the fibrous tissues, which have the same tendency.

2. The author details almost all the experiments and observations of the various writers on the subject of the second inquiry. These extensive studies result in the opinion, that no fibre of an unquestionably muscular nature is insensible to the action of galvanism. Treviranus, Bichat and others, have maintained that the heart was not affected by galvanism;

but Dr Wedemeyer asserts from his own experiments that it is affected, and is astonished that a contrary opinion should have been advanced, considering the evidence on the subject, which is clear and distinct. His numerous experiments, however, on the large arteries—experiments repeated for several years on various animals, birds, reptiles and fishes—never furnished him with a single instance in favour of the doctrine of a vital contractility in arteries. He thinks John Hunter must have exaggerated the sum of contraction that takes place in an artery which is cut off, and that others have been deceived in their experiments.

In the Quarterly Summary of our last number, we noticed Dr Wedemeyer's opinion, that the movement of the blood in the capillaries results chiefly from the action of the heart, and not of the great vessels. We shall now give his views on the question, whether the movement of the blood in them does at all depend on the contractility of the small arteries and of the capillaries themselves.

His researches led him to conclude with confidence, that the small arteries are endowed with a certain degree of contractile power. Bichat had asserted that the mildest and most inert fluids could not, during life, be injected from arteries into veins in consequence of the contraction of the capillary vessels; but Magendie states that even irritating liquors can be forced through. Dr Wedemeyer has proved by his own experiments that water can be forced from arteries into veins during the life of the subject, but that the passage of very active irritants is retarded, and even totally prevented, by the contraction of the capillary intermediate vessels. He laid bare the brachial artery and humeral vein of a horse, and having cut them, pushed an injection of tepid water into the lower portion of the artery, and at every thrust of the piston, the water was seen to flow out of the lower portion of the divided veins, and to stop flowing when he ceased to inject it into the artery: a very slight force only was required. On substituting cold alcohol for the tepid water, a much greater degree of force was required to make the fluid which escaped from the veins give evidence, by smell and taste, that it was the same as was thrown in by the syringe; and in spite of the force, it did not escape in jets, but only oozed out. In another horse the experiment was tried with vinegar, and succeeded at first as well as when made with water, but the capillaries gradually contracted, so as finally to prevent the transmission of the acid entirely. These experiments were often repeated, and with the same or very analogous results, and led to the conclusion, that the capillary vessels are endowed with the power of self contraction in a very high degree, when violently stimulated; a contractile power which is purely vital. If it be objected that the alcohol and vinegar were arrested by a chemical change induced by them, it is sufficient to observe, that after death they pass as readily as warm water.

Dr Wedemeyer made many microscopic observations on the capillaries, as affected by the direct application of various stimulants. These are not exhibited in the *Archives*, which presents us, however, with a view of his experiments on the capillaries, made in order to ascertain the effects produced upon them by galvanism.

When small arteries are touched with either the positive or negative wire of a pile composed of from fourteen to twenty-four pairs, we observe in from ten to thirty seconds, and sometimes at the instant of contact, a contraction of their parietes, which may amount to one-fourth, one-half, or even three-fourths of their diameter. The blood flows more rapidly in vessels thus contracted, but nearer to the heart the arteries are dilated, and the course of the blood less rapid. Sometimes this contraction lasts for hours together, but at others for only about ten minutes, after which the vessels recover their caliber. A second application most commonly

produces no apparent effect. He never observed that the small veins, subjected to this experiment, were contracted, except in one solitary instance; while, on the contrary, in every other case, they were gradually dilated, and the flow of the blood in them became slower and slower, or even stopped completely. The effect (secondary?) of galvanism on the capillaries was still more remarkable, for in the course of a minute the flow of the blood became very much diminished, was wholly suspended, and that fluid was actually coagulated: the capillaries appeared to be dilated, and those which were before colourless and transparent, were soon found to be of a lively red, as if inflamed.

He regards the contractility proved by the experiments to exist, as analogous to that in the urethra, in the small ramifications of the bronchiæ, in the corion of the skin, &c. It is never manifest in the ordinary state of the circulation, but only on the application of certain stimulants. It does not contribute at all to the movement of the blood in the capillary vessels, but, on the contrary, as HALLER remarked, serves rather to retard and embarrass it. The same he thinks to be true of the small arteries. He says that the motion of the blood in the capillaries is arrested as soon as we tie up the aorta near the heart, and that those who have made a statement contrary to this, have been misled by particular circumstances.

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## III. PATHOLOGY.

10. *Case of Ascending Paralysis, with the Appearances after Death.*—Charles L. aged thirty-five years, of a robust constitution, had been in the army fourteen years, and during the Russian and Spanish campaigns, had of course been exposed to great fatigue and vicissitudes of climate. In June 1826 he perceived, for the first time, that his legs bent readily under him, and that he could with difficulty raise himself up from a sitting posture. In other respects his health was good. In about fourteen days he began to experience a numbness in his feet, which gradually ascended towards the knees. While the sensibility of the surface became thus diminished, the muscles of the legs became the seat of acute pain, which was increased considerably by pressure. After being confined to his bed for a month, with almost entire loss of power in the lower extremities, he perceived a numbness in his hands. The progress was precisely similar to that in the inferior limbs. He was first seen by the relator of the case on the 22d of September of the same year. He was now completely paralytic, with the exception of the tongue, the face, and neck, which parts became, however, gradually affected. He had never complained of pain in the head, or of any portion of the spine; nor, upon the most rigid examination, could any physical lesion of the latter be detected. His general health was good; his intellect perfect; he slept and digested well; passed his urine voluntarily, and had an evacuation from the bowels daily. The patient referred his disease to rheumatism, which he had contracted during his service in Spain. The temperature of the skin was nearly natural; the latter was perfectly insensible to pinching or pricking, but the least pressure of the muscles occasioned great pain, causing the patient to cry aloud.

Frictions with lytta and alcohol along the spine were assiduously employed; ammoniated liniments were applied to the limbs, and cinchona with wine was liberally administered internally. In the course of two weeks the sensibility of the skin began to return, and that of the muscles to diminish. The power of the latter was also gradually restored; but in

the opposite direction from that in which it had been lost—namely, from above downwards. He, however, never became able to raise himself upon his feet. Even this state of improvement continued but for a short period, when the symptoms returned as before. In addition to the former remedies, blisters were applied along the spine. By the 3d of November his breathing became difficult, his pulse quickened, his countenance anxious; he had cough; the intercostal muscles appeared almost immoveable. In this condition he continued until the 7th of the month, when he expired without a struggle. *Autopsy.* The spinal chord being laid open through its whole length, the venous sinuses were found to contain but little blood. The dura mater was natural—the pia mater was, in the lumbar region, sprinkled with calcareous depositions, and finely injected. The roots of the lumbar, sacral, and great sciatic nerves were injected with black blood. The remaining nerves, upon a minute examination, presented no uncommon appearance. The spinal marrow was somewhat firmer than natural, which was also the case with the medulla oblongata and brain. The lungs were filled with tubercles, and presented a few small abscesses. The heart was empty and flaccid. The viscera of the abdomen presented no traces of disease. The muscles did not differ in their appearance from those of an individual in health, with the exception of their being more pale and flaccid.—*Clinique.*

11. *Croup in an Adult.*—So comparatively unfrequent is the croup in adults, that many have erroneously supposed it to be a disease confined entirely to childhood. At the session of the Royal Academy of Medicine, September 22, 1829, however, M. Tonnelé, internal student of the Hospital for Children at Paris, read, in the name of M. Desormeaux, a well marked case of croup in a married woman. It is stated that towards the close of her pregnancy, she was attacked with pseudo-membranous angina. Delivery took place during the disease; the infant was perfectly healthy, and has so continued. The mother, however, died; and, on opening the body the membranous exudation peculiar to croup was found in the larynx and trachea; the lungs were in a state of engorgement, and the bronchii were the seat of intense inflammation.

12. *Hydrothorax—Atrophy of the Right Lung—Diaphragm Cartilaginous.*—A man, sixty-two years old, strong and robust, who had been subject for a long time to rheumatic pains and a pulmonary catarrh, was attacked with thoracic inflammation, the consequence of habitual intemperance. General and local bleeding was practised without relief to the pain. Upon a renewed examination, it was discovered that there existed a commencing hydrothorax, complicated with hepatitis. Notwithstanding the remedies employed, the cough became more frequent, and respiration more difficult. The body of the patient was bent forwards in such a manner as to cause the head to rest upon the knees. The inferior extremities and right arm soon became œdematous, and the general weakness, augmented by colliquative diarrhœa, speedily terminated in death. On examining the body, the right lung was found in a state of atrophy, lying upon the vertebral column, towards the origin of the bronchii, where it formed an unequal tumour of a whitish colour, and containing in its centre an abscess. The pleura of this side contained a serous effusion of a blackish colour. The mediastinum was cartilaginous, the whole length of its insertion at the sternum. The left lung was healthy, and appeared more voluminous than natural. The heart was flaccid and shrivelled. The diaphragm was cartilaginous throughout almost its whole extent, and at its insertion into the ribs converted nearly into bone. The liver was engorged, and the gall bladder filled

with a blackish liquor. The examination was not permitted to be carried any farther. It is somewhat remarkable, that with so extensive a disorganization of parts essential to life, existence could be prolonged for the length of time it was in the present instance. This case was related originally in the Transactions of the Royal Society of Medicine, Surgery, and Pharmacy of Toulouse, for 1829. We are indebted for it to the July number (1829) of the *Archives Générales.*

13. *Epidemic Dothinentéry.*—At the session of the Royal Academy of Medicine, June 16, 1829, M. Ollivier made a report upon the Memoir of M. Gendron, relative to an epidemic dothinentéry which prevailed at Vendôme in the commencement of the year. This disease attacked particularly the regiment of dragoons in the garrison of that city—an account had been already presented of the epidemic by M. Gasc, who denominated it *gastro-enteritis.*

M. Gendron describes the disease as follows:—In the commencement the patient experienced chills, alternating with flushes of heat, want of sleep, general lassitude, and severe cephalalgia. The eyes were injected; the countenance was stupid as of a person intoxicated; the tongue red and humid, and all the usual symptoms of pulmonary catarrh were present. About the fourth or fifth day a colicky sensation was experienced in the umbilical region, with frequent fluid stools, tumefaction and sensibility of the abdomen, dryness and blackness of the tongue and gums, and inextinguishable thirst. Subsequently, the symptoms were extreme prostration of strength and delirium, sometimes taciturn, and at others raving. In some cases there occurred deep coma and general insensibility. The fever was continued, and the skin generally dry and parched. Some patients only presented in the course of the second week, a crop of small vesicles, upon the neck and breast. At the approach of death the abdomen became greatly distended. In five patients there were copious hæmorrhages from the anus of a black fluid blood, very fœtid. In another, in consequence of the coats of the intestine becoming perforated, peritonitis preceded death. The patients in general sank between the fifteenth and eighteenth days, but death occurred between the eighth and ninth, in cases in which the brain became the seat of inflammation. In some instances the disease was prolonged to the thirtieth, fortieth or fiftieth day; in general convalescence was tedious. In autopsical investigations, the principal alterations were discovered in the ileum and mesenteric glands. It is true that in some cases the mucous membrane of the stomach appeared injected, but without alteration in its texture. The folliculi of the intestinal mucous membrane formed a species of pisiforme tubercles; from these could be pressed a pultaceous substance resembling what is termed the core of a furunculus. These tubercles were most evident at the commencement of the cæcum, where they formed those elliptical patches which have been lately observed. Between these patches, the mucous membrane was injected, but without softening. Many of these tubercles had suppurated before death, and given rise to ulcers. The mesenteric glands were of the colour of the dregs of wine, of the size of a small nut, sometimes in a state of suppuration, or reduced to a pultaceous consistency. The other viscera were healthy. The muscles were of a brown colour, and softened in their texture. The blood was in general fluid and black.

M. Gendron agrees with M. Bretonneau in denominating this affection dothinentéry, but he differs from him in declaring that he found the employment of bleeding, both general and local, beneficial in many cases. He has by turns administered diluent drinks, those which were acidulated,

soothing, or lightly astringent. He has never employed tonics or stimulants, which appeared to him to be contra-indicated. He has administered, as recommended by M. Bretonneau, a purgative on the fifteenth day of the disease only in one case, and with success. Among one hundred and fifty dragoons received in the hospital at Vendôme during January and February, upwards of one hundred were affected with the disease in question; of these thirteen died.

In a report of M. Bretonneau upon the same epidemic, it is stated that the disease affecting the dragoons at Vendôme, is that which he has denominated dothinentéry or intestinal exanthemata, and which for a long time has been described as *putrid fever*. This affection he conceives to occur frequently as an epidemic, and invariably to propagate itself by contagion. He does not agree with M. Gasc in ascribing its production to the occupation of damp rooms and the use of unwholesome aliments. His reasons for this are, because the disease did not prevail in former years among the inhabitants of these barracks, and because the food consumed by the garrison at Vendôme was the same as that issued to the garrison at Tours, where no cases occurred. He refers to the testimony of M. Gendron to prove that the examination of the bodies after death never presented traces of inflammation in the gastro-intestinal mucous membrane, but only cadaveric sugillations of this membrane, and a pustular inflammation which is specific of dothinentéry. He terminates his memoir by attesting the contagious character of the disease, in proof of which he refers to the fact, that the students of the school of La Flèche, where it prevailed in 1826, carried the disease with them into their families.

14. *Inflammation of the external parts of Generation in a pregnant Female, terminating in Suppuration and Death.*—This case is related by Dr Carus in the Zeitschrift für Geburtskunde, No. 3, Vol. II. (1828). It occurred in a female twenty-four years of age, of a robust and plethoric constitution. During the fourth month of her second term of pregnancy, (May 11th 1827) after being occupied in her domestic affairs for a long time, she was seized with syncope which lasted several minutes, and was followed by chills, heat, several liquid stools, pains in the abdomen, and a strong inclination to urinate. It was then discovered, that three weeks previously, a similar attack had occurred, which was accompanied with a discharge from the genital parts of a mucous fluid of a bad appearance. On the 14th of May the patient was removed to the hospital. The external parts of generation were discovered to be very red; the external labiæ, orifice of the urethra, and the right external labium were affected with an œdematous swelling. An erysipelatous redness covered the pubes and inguinal region. The thighs presented several varicose tumours and a pustular exanthemata. The finger being introduced into the vagina, which could with difficulty be effected, the temperature of the latter was found to be increased, and there was discharged a brownish purulent liquor similar to that which occurs when the fœtus is dead. To this cause, as no abscess existed, the discharge was attributed. No part of the fœtus could be reached by the finger. The abdomen was hot, tense, and painful to the touch. The uterus was felt through the abdominal parietes to contract when light frictions were made over it; and again to dilate itself without the patient experiencing any sensation. She complained of thirst and weakness. The fever was considerable. Six liquid discharges occurred from the bowels, attended with griping. Fourteen ounces of blood were drawn off; fomentations were applied to the genitals, and an oily enema administered. Internally, in order to induce the expulsion of the fœtus, castor was directed. Subsequently cold applications were made to the

genitals. The symptoms were somewhat improved; but on the next morning the head was affected, the metritis augmented, and the abdomen became tumid. The delirium, which had commenced the preceding evening, was increased. Ten ounces of blood were taken away, and a nitrous emulsion, with cold fomentations to the abdomen, were directed. The ensuing day pulse frequent, small and tremulous; clammy sweat; involuntary stools; prostration; coma. A five month's fœtus was now expelled; but not putrid, and enveloped in its membranes; a half hour subsequently the patient died. *Examination of the body* twenty-four hours after death. Head and chest unaffected with disease. Intestines distended with gas. Liver and spleen enlarged; adhesions, apparently of long standing. The kidneys engorged with blood and spotted; the right larger than the left. The tissue of the uterus in a natural condition, but its external and internal faces very red. The os uteri somewhat thickened and livid. The veins of the broad ligament on the right side, and the right internal spermatic vein very considerably enlarged. A suppurating cavity was discovered in the external parts of generation, which were traversed, in different directions, by fistulous canals containing a brownish pus. The vagina was red, hard and swollen, and presented, in different parts, blackish patches. The relator presumes that the inflammation in this case may have been produced either from the use of remedies intended to produce abortion, by venereal excesses, or by masturbation with some hard body.

15. *Bone found in the Heart.*—In the *Archives Générales*, it is stated that M. Barbier of Amiens, presented to the Royal Academy of Medicine, a very slender, osseous body, an inch and a half in length, and pointed at its two extremities, which he had extracted, after death, from the right ventricle of the heart in a man sixty-two years of age. This bone had pierced the ventricle in three places, and had penetrated it in three others. The heart had probably forced the bone through its substance by its contractions, as the bone was situated transversely in the ventricle.

16. *Case of extraordinary Hypertrophy of the Heart.*—This case occurred in the Edinburgh Royal Infirmary, under the care of Dr Duncan. The patient was a female, aged twenty years, and was admitted 12th of May 1829. She then laboured under a frequent and severe cough, attended with a profuse watery expectoration tinged with blood. Her respiration became hurried and distressing, even to a sense of suffocation, whenever she inclined to the horizontal position. The action of the heart was heard over a larger space of the chest than natural; the pulsations were unusually strong. Palpitations occurred from trifling causes, and were generally followed by an attack of coughing. Pulse 100, moderately full, rather resisting, and occasionally intermittent. She had severe headache, aggravated very much during coughing; face very pale; general œdema; bowels open; urine scanty. About two years previously she had an attack of fever, after which palpitations occurred, and have since reappeared upon any exertion. About two months before her admission, the cough and difficulty of breathing commenced, and from that period continued to increase in severity. The œdema and bloody sputa had been noticed only about a month. She had been in the infirmary the preceding winter, complaining of headache and palpitations; had been discharged somewhat relieved. She was directed a mixture composed of two grains of tartarized antimony, a drachm and a half of tincture of opium, eight ounces of water, and half an ounce of syrup: half an ounce to be taken every third hour, and an anodyne at bed time.

13th. Had a bad night; vomited; symptoms continue. A grain of pow-

dered digitalis was directed every hour, until six doses were taken, provided vomiting did not previously occur; with a mixture containing spir. nit. dulc.

14th. The third dose of digitalis caused vomiting; cough less troublesome; urine scanty; pulse 100, full and regular. She was directed a mercurial pill every morning; the other remedies to be discontinued. She lingered until the 6th of June when she expired. *Sectio cadaveris.* General œdema, but not to any great extent. Lower part of the right side of the chest sounded duller than natural on percussion. On elevating the sternum and cartilages of the ribs, the heart was seen to occupy a much larger space than usual, reaching from about the second rib to between the seventh and eighth. In each cavity of the chest was contained about a pound and a half of serum, and in the abdomen about four pounds. The diaphragm was thrust more into the abdomen than natural, and consequently the liver also. The lower portions of the right lung were considerably altered in their structure, being of a dusky red or brown colour, and completely hepatized; the other portions were altered in a less degree; for though firmer than natural, the areolar structure could still be recognized, and they crepitated upon pressure. The left lung less diseased than the right; was of a grayish-white colour, approaching in character to the gray hepatization; it was likewise more loaded with serum than natural. The heart weighed thirty-two ounces, that is, about twenty-two ounces more than the ordinary weight; it was seven inches in length, and five in breadth. The loose portion of the pericardium adhered throughout to the portion which closely invests the heart. This adhesion beween the two layers of the pericardium was by means of a loose cellular tissue infiltrated with serum. The auriculo-ventricular valves were diseased, particularly the mitral valve, which was thickened, contracted, and presented some calcareous depositions. The pulmonary valves were exceedingly small. The ascending, transverse arch, and descending portions of the aorta were smaller in caliber, and had thinner coats than natural.

17. *Cases of Apoplexy.*—We have extracted from the *Bibliothéque Médicale* for September 1829, the following cases, published originally in the French Lancet. They are presumed to prove, in contradiction to the opinions of modern physiologists, that a diseased condition of the different organs composing the brain, give rise to precisely the same symptoms, and that, therefore, it is impossible to determine what part of the brain is affected, from the morbid phenomena in any particular case.

Case 1. *Complete paralysis of the left arm, incomplete of the leg; apoplectic cyst confined to the Corpora Striata.*—A female aged sixty-one years was admitted into La Pitié, October 17, 1827, affected with "central hæmorrhage." March 23, 1828, she presented complete paralysis as to the movements of the left arm; those of the left inferior extremity were but partially paralyzed. Neither the mouth nor the tongue presented any deviation; speech was unaffected, but the slightest question caused the patient to shed tears. Death occurred from disease independent of the paralysis. On examining the body, an apoplectic cyst was found in the striated body of the right side; this cyst, confined strictly to the part indicated, was of some size, and was lined with a membrane apparently serous; morbid membranous productions passed from one portion of its parietes to another: it contained a yellowish liquid.

In this case the symptoms during life, and the alterations discovered in the brain, are not in accordance with the opinions of physiologists, who attribute to the thalami nervorum opticorum the direction of the movements of the superior extremities.

Case 2. *Complete paralysis of the right arm, incomplete of the leg, with loss of feeling; softening confined to the Corpora Striata.*—A woman sixty-one years of age, who had laboured for many years under disease of the heart, was seized suddenly in the month of May 1829, and without any previous affection of the head, with complete numbness, which caused her to fall to the ground. From this period she experienced partial loss of consciousness, and a paralysis both in the movements and feelings of the right side of the body; more complete, however, in the arm than in the leg, the latter being able still to perform some degree of motion. Her condition appeared to be somewhat improved by the employment of bleeding and purgatives. May 19th. The patient again lost all consciousness; the palsy became more intense, but was still more complete in the arm than in the leg. The patient finally died, rather, however, it is stated, from the disease of the heart than from the affection of the brain. On examining the body, the left striated body was found to be affected with a circumscribed softening, with infiltration of blood; the surrounding parts were perfectly healthy. The foregoing case, it will be perceived, is also in opposition to the opinion which has been advanced in relation to the use of the corpora striata, inasmuch as a disease of this part of the brain produced here palsy of the arm instead of the leg, which latter ought to have occurred did they preside over the movements of the lower extremities.

Case 3. *Paralysis confined to the left arm; cyst in the thalamus optici of the right side.*—A man sixty-five years old had a partial paralysis of the left arm only; paralysis occurred suddenly, preceded by loss of consciousness; subsequently he was affected with general tremors. He died suddenly without any symptoms being present to indicate that death was so near at hand. On opening the body, there was discovered a small apoplectic cyst confined to the right thalamus, as also a softening of the superior part of the spinal marrow. The sudden death in this case is referred to a serous apoplexy, evidences of which were likewise discovered in the brain.

Case 4. *Paralysis much more decided in the arm than in the leg; effusion of blood in the Thalamus Optici.*—A female sixty years old was suddenly deprived of consciousness to a certain extent, for she was still able, though with difficulty, to reply to questions put to her. There was, also, a slight distortion of the mouth upwards and to the right side; the left arm was completely paralyzed; the leg could still execute certain movements. There was a contraction of the muscles of the side of the neck, and consequently a lateral flexure of the head. It is remarkable that this patient had been deaf for many years, but that during the whole time she laboured under the cerebral hæmorrhage; her hearing was so acute that she was capable of distinguishing sounds perfectly inaudible to her previously. Bleeding, purgative injections and nauseating drinks were prescribed, but without benefit. The autopsy exhibited a considerable laceration of the thalamus of the right side, with an effusion of blood which had escaped into the ventricle.

18. *Pus found in the heart of patients destroyed by Phthisis Pulmonalis.*—The three cases which follow are related by M. Miguel in the *Nouvelle Bibliothéque Médicale*.

Case 1. A female, aged twenty-six years, entered La Charité, April 17, 1827, labouring under all the symptoms peculiar to the last state of pulmonary consumption. She died on the 8th of May, after several days of severe suffering. *Autopsy* twenty-two hours after death. The larynx presented deep ulcerations, particularly in the neighbourhood of the vocal chords,

and upon the arytenoid cartilages. In the right lung there existed an excavation, capable of containing a small apple, and half filled with a reddish sanies, similar to what was expectorated by the patient during the last days of her disease. The remainder of the lung was studded with tubercles in different stages of development. Its tissue was of a uniform reddish gray, and gave out, when pressed or scraped with the scalpel, a purulent serum. The left lung was crepitant and healthy, with the exception, however, of a few tubercles dispersed throughout its upper lobe, about the size of a pea, and very soft. There were no miliary tubercles. The heart, rather large for the size of the subject, contained in its left ventricle a few clots of fibrin, colourless and solid. On cutting into the right ventricle, towards the point of the heart, a tumour was opened, about the size of an almond, from which there escaped fluid and whitish pus. This abscess was not formed in the substance of the heart, but was enclosed in a fibrous cyst, situated beneath the columnæ carneæ, and projected at one point beyond the interior surface of the ventricle. Four or more tumours of the same nature, and similarly situated, but of different sizes and forms, were found in this ventricle: many of these cysts communicated with each other. The fibres which passed into the inferior interstices of the fleshy columns were hollow, forming canals which were filled like the projecting tumours with pus. Beneath these fibrous canals, which were raised with facility, the tissue of the heart was perfectly healthy. The ventricle contained fibrinous coagula, colourless and floating in its interior. These coagula, as well as those found in the vena cava and iliacs, did not contain any pus. The liver was slightly diseased, and three or four ulcerations were found towards the end of the colon.

Case 2. A man, nineteen years of age, entered La Charité the 4th of July, 1829, in the following condition:—Pectoriloquy, notwithstanding his state of complete aphonia; cavernous rattle, at first on the right, subsequently, after some days, on the left side, and engorgement of the glands of the neck; these, at first hard, became subsequently softened, and were evidently of a scrofulous nature. In addition to these symptoms there were night sweats, colliquative diarrhœa and marasmus. Death took place August 1st, after three days of agony. *Autopsy* thirty-six hours after death. In the superior portion of the right lung, there existed an enormous excavation; in the inferior lobe, tubercles in different degrees of softening; an extensive cavern existed at the summit of the left lung. This as well as that in the right lung was half filled with a purulent sanies. On cutting into the glands of the neck, a considerable quantity of thick yellow pus escaped, exhaling a nauseous odour, and evidently formed by the destruction of the substance of the glands. The heart was of its ordinary size. The left ventricle presented nothing remarkable; the right was filled with black coagulated blood. This being washed out, about twenty rounded tumours were discovered, grayish in colour, and of the size of peas. Some of these were situated in the midst of the fleshy columns—others projected somewhat, and appeared like small balls attached to the interior of the ventricle. These tumours were enveloped by a fibrous membrane, and contained genuine pus, of a colour slightly reddish. The fibres situated below the fleshy columns were, as in the preceding case, hollow, and contained pus.

Case 3. A female, aged twenty-five years, born of phthisical parents, and several of whose brothers and sisters had died of the disease, fell a victim to consumption October 2, 1828, after a protracted agony. Previously to her death, she was emaciated in the extreme, and there existed pectoriloquy under both clavicles. On opening the body, in addition to extensive excavations in both lungs, the right ventricle of the heart presented

an infinite number of small tumours, containing pus, and precisely similar to those noticed in the preceding cases.

19. *Abscess of the Lungs opening externally.*—This case is from *La Clinique Médicale.* It occurred in a male aged sixteen years, of a lymphatic temperament, and delicate constitution. He had frequently suffered from engorgements of the glands of the neck. About two years before his entrance into the Hotel-Dieu, which took place April 14, 1829, an abscess formed before the trachea, and above the sternum, which was not opened till very late; a fistulous orifice resulted, which, after healing and recurring repeatedly, became at length permanent. About the same period several abscesses formed on the external part of the leg, which being opened gave rise to scrofulous ulcers. He had been always affected with a slight cough, augmented during cold weather. Three months previously to his reception into the hospital, the patient had applied upon the ulcers of his lower extremity some desiccating remedy—this arrested the suppuration, but immediately the cough became augmented, accompanied with acute pains behind the sternum. Some weeks later, during a violent paroxysm of coughing, a considerable quantity of pus, mixed with air, was expelled through the fistulous opening in the neck. From this time the patient sank rapidly; about eight or ten days before he came to the hospital, he was attacked by frequent vomiting. On his admission, he was pale and emaciated, his face was haggard; at the lower part of the neck there existed two fistulous openings, through which the air entered and escaped during respiration; and while coughing, there was discharged from them a quantity of thin and very fœtid pus. The respiration was frequent and short; the pulse small and rapid; the debility extreme. These symptoms, to which diarrhœa was now joined, augmented rapidly, and the patient died April 20. The two fistulous openings in the neck led to a cavity two inches in diameter, situated between the two sterno-mastoidei muscles above the sternum, and between the fascia of the neck. At the lower part of this cavity there existed an opening of two lines in diameter. This was the superior orifice of a canal which penetrated into the chest, entering the outer edge of the lung, and passing into the substance of the latter to the upper part of the lower lobe, where it opened into a cavity of an inch and a half in diameter. This cavity was empty; its parietes were smooth and hard; two or three ramifications of the bronchii communicated with it. The superior lobe of the right lung adhered to the upper part of the thorax; at its inferior part this lung was covered with a false membrane, and surrounded by about two glassfuls of a muddy serum. The pulmonary tissue was healthy, with the exception of tubercles; these were softened, excepting in the neighbourhood of the cavity described, where they were black and hard. The left lung was without adhesions, but covered in part by a false membrane. The right ventricle of the heart was filled by an enormous polypous concretion, which extended into the pulmonary arteries, &c.

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## IV. THERAPEUTICS.

20. *Due Administration of Blood-letting.*—Dr Marshall Hall, whose reputation has long been known and appreciated in this country, has lately published in London, a little volume under the title of "Proposal of a plan for the investigation of the due administration of blood-letting." We have not yet been able to procure a copy of this work, and know it only

through the medium of an analysis contained in the January number of the Medico-Chirurgical Review. From this we shall make a few extracts. Dr Hall commences by remarking, that if several individuals be bled to deliquium in the erect posture, they being of apparent similar strength, but affected with dissimilar diseases, they will be found to have lost very different quantities of blood before fainting is induced. Some, not apparently feeble, faint on losing four ounces, while other patients bear the loss of fifty, sixty, or even seventy ounces of blood without syncope. "Its rationale is to be found, I believe, in connexion with an equally interesting fact, that different diseases induce in the constitution different powers or susceptibilities in regard to the effects of loss of blood. Each disease appears indeed to possess its own peculiar and intrinsic virtue in this respect. This is determined by placing the patient perfectly erect, and bleeding to incipient syncope; the quantity of blood which flows is the measure of the protective influence of the disease in one class of cases, and of its influence in superinducing a susceptibility to the effects of loss of blood." "An interesting scale of diseases may be formed representing these properties. It would begin with congestion of the head, or tendency to apoplexy; inflammation of the serous membranes, and of the parenchymatous substance of various organs would follow, and lastly, inflammation of the mucous membranes. This part of the scale would be divided from the next by the condition of the system in health. Below this would be arranged fever, the effects of intestinal irritations; some cases of delirium; reaction from loss of blood; and disorders of the same class with hysteria, dyspepsia, chlorosis, and cholera morbus."

In all cases, however, Dr Hall observes, where the circulation of the heart and larger arteries only is affected, and especially in such as involve irritation or exhaustion, there is early syncope on taking blood. But in such cases as consist in an affection of the capillary circulation, and especially such of these as affect the head, it requires the extraction of much blood to induce deliquium. "Syncope is prevented by the influence exerted by this state of the capillary circulation over that of the heart and larger arteries, and over the whole system, and especially over the circulation within the brain; and it does not entirely subdue the morbid action of the capillary vessels even when induced. To induce syncope in pure fever, we have then but to subdue the state of reaction in the heart and larger arteries. In inflammation we have not only to do this, but to overcome the influence of a permanent morbid action of the capillaries. This is especially observed in inflammation of the serous membranes, and within the head."

"The quantity of blood which flows when a patient, requiring full blood-letting, is placed upright, and bled to deliquium, seems accurately proportioned to the exigencies of the case. In inflammation much blood should be taken, and much blood will flow before deliquium is induced; in irritation little blood should be drawn, and there is early syncope from blood-letting. The quantities are even accurately suited, not only to the exigencies of the disease, but to the powers of the system; at least so it appears to me from considerable experience. The rule is suited also to the degree and the duration of the disease; for, with each of these, its influence in inducing tolerance or intolerance of loss of blood, is respectively augmented.

"It is not less adapted to those most frequent of all events, mixed cases. Inflammation and irritation may be conjoined. For example, there may be mere nephralgia or absolute nephritis, from calculus or a mixed case involving both. There may be mingled intestinal irritation and inflammation. In each of these circumstances, the rule for blood-

letting which I have proposed, adapts itself accurately to the demands of these various affections, and to the actual strength and condition of the general system.

"It is difficult to say whether more injury has been done by an undue or by an inefficient use of the lancet. In inflammation we must bleed fully. In irritation we must bleed cautiously. Inefficient blood letting in the former disease, and undue blood letting in the latter, are alike dangerous and even fatal to the patient; from both extremes we are guarded by the rule which I propose. By directing the patient to be placed in the erect position, and bled to deliquium, we often take much more blood than we should have ventured to prescribe in inflammation, and very much less than we might be disposed to direct in irritation; and in both these cases the rule conducts us to the only safe mode of treatment. A further practical application of this fact flows from the adoption of the rule. In doubtful cases it furnishes us with a fresh means of diagnosis. If much blood has flowed before syncope occurred, we must suspect inflammation; if little, we must suspect that, however similar the symptoms, the case is in fact of a different nature, perhaps irritation, perhaps exhaustion."

Dr Hall observes, in conclusion, that he does not think it safe, in any case, to bleed to deliquium in a recumbent posture. There can be few, if any cases, in which, if it be proper to bleed fully, danger can accrue from bleeding to the most incipient syncope in the perfectly upright position.

21. *Strychnia in Paralysis.*—Since the appearance of M. Fouquet's paper on the use of nux vomica in paralysis, this remedy, and more recently its active principle, have been often tried in Europe and this country, but so far as we can collect, not with the great success which M. Fouquet's reports had led physicians to anticipate. Dr James Lomax Bardsley, physician to the Manchester Infirmary, has lately published the results of his experience with the strychnia and other new remedies, brucia, acetate of morphia, veratria, iodine, &c. He details twenty-three cases of paralysis treated with the former of these remedies, and gives a tabular view of twelve more. From the result of these trials, the author concludes that the remedy in question excites a very powerful influence on the system, and that it is entitled to rank as a valuable article of the Materia Medica. It was employed in some cases without any benefit, in others with partial, but in the majority with most satisfactory success. "It is in such cases of paralysis, as seem to arise from diminished nervous excitement, that the strychnia is particularly indicated." When cerebral disorganization has already taken place, no advantage can of course be expected from this or indeed any other medicine.

"It may be stated here as a rule of guidance, that whenever hemiplegia supervenes to an apoplectic seizure in persons of a plethoric habit, it is proper to employ bleeding, purging, and the ordinary antiphlogistic treatment, before resorting to the use of the strychnia. Where the vessels of the head have been freely unloaded, and the quantity and force of the circulating fluid diminished by the above means, there can be little objection to a *cautious* and prudent trial of this remedy. Generally speaking, the strychnia is likely to prove more serviceable in paraplegia, unconnected with spinal disease, than in hemiplegia; though I feel confident, that it will not unfrequently be found an important agent even in hemiplegiac paralysis.

22. *Strychnia in Chronic Diarrhœa and Amenorrhœa.*—Dr Bardsley, whose work we have just cited, in reference to the use of strychnia in

paralysis, has likewise used this article with success, in chronic diarrhœa and amenorrhœa. In the former disease he found it a safe and effectual remedy, not in cases which depend upon an evident inflammation of the mucous membrane of the intestines, but in those of a *chronic kind* in persons somewhat advanced in life, and of feeble constitution. Other physicians in France and England have employed strychnia with advantage in the same disease.

In amenorrhœa he has found it successful, and describes several cases which fully justify this conclusion. It operates, he thinks, by stimulating the vessels of the uterus, and improving the tone and vigour of the system. Dr BARDSLEY advises the conjoint exhibition of mild laxatives with the alkali in this affection, when the bowels, as is most commonly the case, are constipated.

"Previously to my experiments with the strychnia in this disease, I had been in the habit of employing aloes more extensively than any other medicine; and I can add my testimony to that of the venerable Dr HAMILTON in favour of the utility of purgatives in exciting the action of the uterine vessels. In many cases I have succeeded in obtaining a renewal of the menstrual discharge by a steady but active administration of the aloetic pill *alone*."

23. *Stimulants in Delirium unconnected with Inflammation.*—Dr ABERCROMBIE, in his invaluable work on diseases of the brain, describes a peculiar affection of the brain under the title of "A Dangerous Modification of Meningitis, which shows only increased Vascularity." The following is the description of the disease:

"Another important modification of the disease occurs in an insidious and highly dangerous affection, which I think has been little attended to by writers on the diseases of the brain. It is apt to be mistaken for mania, or, in females, for a modification of hysteria; and in this manner the dangerous nature of it has sometimes been overlooked, until it proved rapidly and unexpectedly fatal. It sometimes commences with depression of spirits, which after a short time passes off very suddenly, and is at once succeeded by an unusual degree of cheerfulness, rapidly followed by maniacal excitement. In other cases, these preliminary stages are less remarkable; the affection, when it first excites attention, being in its more confirmed form. This is in general distinguished by remarkable quickness of manner, rapid incessant talking, and rambling from one subject to another, with obstinate watchfulness, and a small frequent pulse. Sometimes there is hallucination, or conception of persons or things which are not present, but in others this is entirely wanting. The progress of the affection is generally rapid; in some cases, it passes into convulsions and coma; but in general it is fatal by a sudden sinking of the vital powers, supervening upon the high excitement, without coma. The principal morbid appearance is a highly vascular state of the pia mater, sometimes with very slight effusion between it and the arachnoid. The disease is one of extreme danger, and does not in general admit of very active treatment. General bleeding is not borne well, and the treatment must in general be confined to topical bleeding with purgatives, antimonials, and the powerful application of cold to the head. The affection is most common in females of a delicate irritable habit, but also occurs in males, especially in those who have been addicted to intemperance. I have however seen it in one case, in a gentleman between forty and fifty, of stout make and very temperate habits. The cause of death is obscure; it seems in general to be a sudden sinking of the vital powers, supervening upon the high excitement, without any of the actual results of inflammation."

Since the publication of the first edition of his work, Dr Abercrombie appears to have somewhat modified his opinion on the treatment of the disease, and recommends in his second edition more stimulating remedies.

"The above remarks on this highly dangerons and interesting affection, I leave as they stood in the first edition of this work. Since that time I have seen several examples of it, and have been induced to adopt a different mode of treatment, which seems to promise some interesting results. Without at present venturing upon any general conclusions, I shall merely submit the following case :

"A lady, aged about thirty-eight, was recovering from her eleventh accouchement, when, at the end of a fortnight, she became affected with a deep-seated hard swelling in the right side of the pelvis, which was tender to the touch, and was accompanied by a considerable degree of fever. After repeated topical bleeding and other remedies, the febrile state subsided, the swelling lost its tenderness, and seemed to be gradually diminishing in size ; but its progress was very slow, and after three or four weeks she was still confined to bed, and suffering a good deal of uneasiness ; her pulse was now calm, but she was considerably reduced in strength. At this time, she became one day alarmed and agitated by some family occurrence, and immediately began to talk wildly and incoherently, and after a restless night was found next day in a state of the highest excitement, talking incessantly, screaming and struggling, with a wild expression of countenance, and a small rapid pulse. She was treated by topical bleeding, laxatives, cold applications to the head, &c., but with little or no benefit ; and on visiting her on the following day, I found her sitting up in bed, with a look of extreme wildness, both her hands in constant motion, talking incessantly and wildly ; and I learnt that she had not ceased talking for one instant for the last twelve hours. Her pulse was now rapid and feeble, and her countenance expressive of exhaustion. In consultation with a highly intelligent friend who had charge of the case, I mentioned my experience of the fatal nature of the affection, and proposed to make trial of treatment by stimulants. A glass of wine was accordingly given, with evident abatement of the symptoms ; and it was ordered to be repeated every hour. At the end of the fourth hour, she was perfectly composed and rational, her pulse about ninety, and of good strength ; and from this time there was no return of the symptoms. The tumour in the right side increased in size, suppurated, was opened, and healed favourably. From this time she continued in perfect health, and has since passed through another accouchement in the most favourable manner.

"This case I have given as another example of this interesting affection. I have employed the same mode of treatment, with similar benefit in several other cases, both of males and females. The chief difficulty is in deciding upon the particular cases to which the stimulating treatment is applicable. They appear to be those in which the excitement is accompanied by a small and rapid pulse, and an expression of paleness and exhaustion. When these characters are present, however violent the excitement may be, I have not been deterred from the practice, and in a considerable number of instances have found much reason to be satisfied with it. I have tried it, but without the same benefit, in some of the common cases of insanity, accompanied by paleness and bodily weakness, but with a natural pulse. When there is frequent and strong pulse, with flushing and other marks of increased vascular action, it would of course be injurious."

24. *Paraplegia after Apoplexy, removed by the Moxa and Nux Vomica.*—In a preceding page of this Journal, we offered a summary of Dr Bards-

LEY's experience with strychnia in paralysis. In further support of the efficacy of the nux vomica, we here transcribe from the last number of the *Medico-Chirurgical Review*, a case in which this remedy, conjoined with the moxa, was resorted to successfully. The case is recorded by Mr PURCELL in the *Provincial Medical Gazette*, (No. 11, July 1829) and extracted from that work by Dr JOHNSON.

"J. R. aged twenty-five, robust and plethoric, was seized on the 8th of August, 1828, with "sanguineous apoplexy," from which, under proper treatment, he had recovered on the 14th. On the 16th, he complained of numbness and loss of power in the left side, which were removed by cupping, but on the following day numbness and tingling were felt in the lower extremities, increased during the night, and ending next morning in complete loss of power over the limbs. Partial sensibility remained; there was pain in the loins; pulse ninety-six, rather full; bowels open by medicine; system under the influence of mercury. He had been already cupped and blistered, and the same means were now repeated with evident relief. On the 3d of September, though much improved in his general health, the loss of power in the lower extremities continued, with a partial numbness in the upper. The use of a liniment, tonic medicine, and a light nutritious diet were prescribed, but without advantage to the paraplegia, and on the 17th Mr PURCELL commenced the application of moxas to the loins every other day, and the exhibition of nux vomica. The latter remedy was at first given in the dose of a quarter of a grain of the extract, (prepared in vacuo) every six hours, and a quinine draught was taken thrice daily. On the 30th he was so much improved as to be able to stand, and even walk about with the aid of crutches. The nux vomica was gradually and cautiously increased to the extent of three grains every six hours, and three or four moxas were applied daily to the loins, and along the course of the principal nerves of the extremities. From the 14th of October to the 24th, the patient took six grains of the extract every six hours, and at the latter date was able to walk as well as at any former period of his life. In the course of a few days he was able to resume his usual employments, the comparatively slight numbness in the upper extremities having been effectually removed by moxas along the course of the principal nerves.

"This case does credit to the skill and perseverance of Mr PURCELL, and is worthy of record in these pages. The nux vomica does not seem to have produced any of its specific effects, as convulsive twitchings in the paralyzed limbs, and the dose to which the patient ultimately arrived, twenty-four grains of the extract in the day and night, was a large one. Can it be possible that the moxas had more to do with recovery than the nux vomica? This at least is certain, that the hemiplegias and paraplegias after apoplectic seizures in young men and women are not only rare occurrences, but, cæteris paribus, much more amenable to remedial measures, than palsy in persons at the turn or decline of life. This fact should be borne in mind in estimating the value of any specific drug in the former class of cases. One word in regard to the administration of the nux vomica:—we would advise practitioners to beware how they raise the dose of this formidable medicine, for it sometimes happens with it as with other poisons, that it silently accumulates in the system, and produces all at once an explosion of its effects on the constitution. We have seen convulsions, and even something approaching to apoplexy, ensue from its administration, and that where caution was employed."

25. *Tetanus Nascentium successfully treated.*—The number for January last of our respected contemporary, the Edinburgh Medical and Surgical

Journal, contains the account of a case of *Tetanus nascentium* successfully treated by Dr JOHN FURLONGE of St John's, Antigua. According to Dr FURLONGE, the known fatality of tetanus occurring within the fortnight after birth, has induced many to consider medical aid as useless. Hence, in the part of the world he inhabits, the medical attendant too often contents himself with ordering the bowels to be kept open with oil, and the use of the warm bath twice or thrice a day, instead of endeavouring to combat the affection by those means which the best writers have recommended, and which are suggested by a review of the symptoms and supposed pathology of the disease. At the time of writing the present communication, Dr FURLONGE had seen eight or ten cases of this terrible affection, and with the exception of one, he had the mortification to see his little patients consigned to their graves. He then determined to treat the next that fell under his care on principles precisely as if it were an adult.

The subject of the case he details, was attacked on the eighth day after birth with symptoms of trismus; it refused the breast, and was reported to have stiffness of jaws, for which warm applications were used, and a dose of oil given. The doctor ordered calomel and jalap to open the bowels, and the warm bath every three hours. The next morning the child was not only *trismatic*, but universally *tetanic*. He considered the case hopeless, and so inserted it in the hospital journal of the estate. "I however ordered one drop of *tinct. opii* every three hours, and the warm bath four times a day; the jaws to be frequently rubbed with warm laudanum; the place from which the navel string had dropped to be dressed with turpentine and mercurial ointment; the nape of the neck and back to be blistered, and one of the following powders between each dose of the laudanum. R. Pulv. Dover. gr. ii. Sulph. Zinci, gr. v.—M. Next day I was gratified by a report, stating that the jaws were not so 'tight as they had been,' but that the 'child was uneasy all night, bowels had acted, and blister risen well.' Encouraged by this amelioration, I ordered to continue as before, adding a small quantity of camphor to each powder, the belly to be rubbed with warm laudanum, and the blister to be dressed with *ol. terebinth.* and blue ointment. The same treatment was continued for three weeks, (the bowels being kept open, when necessary, with oil.) In about four weeks from the first invasion of tetanus, every symptom of the disease disappeared, with the exception of very great tenderness of abdomen, and something like tetanic expression of countenance."

On the subject of zinc, which, as our readers will perceive, was used in this case, Dr FURLONGE remarks that it was a favourite remedy in tetanus with a practitioner of eminence at St John's. This gentleman thought that zinc acted beneficially in that disease from its emetic (nauseating?) property. To this Dr FURLONGE objects, from the great difficulty, if not impossibility, of inducing vomiting in tetanus. "In my humble opinion," he adds, "zinc acts as a powerful sedative, and by repressing excessive action, becomes antispasmodic, *i. e.* by lessening the energy of the brain. I was led to this by the following fact:—I had occasion to order the *sulphat. zinci C. ext. gentianæ* for a gentleman, and on accidentally putting my finger on the wrist, I was astonished at the slowness of the pulse. I felt alarmed, and asked if he had headache or fulness of head? He replied in the negative, stating his head was not at all distressing to him. His pulse beat forty-eight. It then occurred to me that the slowness of the pulse might be occasioned by the zinc. It was omitted for a day, and on the following, the pulse rose to seventy-two, its natural standard. The experiment was repeated, but irregularly, with, however, evidence sufficient to convince me that my conjecture was not unfounded."

26. *On the Efficacy of Water Dressing, or the utility of water as an application in the treatment of wounds, ulcers, diseases of the skin, &c.*—The last number of the Edinburgh Medical and Surgical Journal contains an interesting paper on this subject by Dr JOHN M'FADZEN, of Butterant, (Ireland.) Dr M'F. refers the introduction of this practice in Ireland to the learned and intelligent Professor of Anatomy in the University of Dublin, Dr MACARTNEY. He has himself used it very extensively, and "with a success that has considerably exceeded his most sanguine expectation." Dr MACARTNEY "does not claim water dressing as altogether an invention of his own, having only revived an ancient practice, to which he has added the theory or mode of cure. It was used by Patroclus at the siege of Troy, by the priests in the temple of Æsculapius, by Celsus and Ambrose Paré. The latter, a man of original mind, and a real improver of his art, was evidently well acquainted with its value in wounds, and wrote a treatise on gun-shot wounds, recommending a lenient method instead of the irritating application previously in use. He was not entirely free from superstition, however; for having used it for some time with such astonishing effects, he actually supposed its powers to depend on some supernatural agency, and therefore gave it up, saying, it was unlawful for him to perform miracles. We find La Mourie curing the Duke of Orleans' hand by means of water after it had been condemned to amputation by many other surgeons." Larrey used scarcely any thing else than water in Egypt, and we find it recommended by Mr Samuel Cooper and Mr Guthrie.

"Dr MACARTNEY, whilst performing some experiments on the lower classes of animals, seeing that their wounds healed without inflammation, was led to believe that inflammation was not necessary to the healing of wounds. This suggested a method of treatment by reducing inflammation as far as possible, which is most effectually done by the Professor's mode of water dressing. Wounds may heal in four different ways: 1. Through the medium of blood without inflammation. 2. By lymph with or without the presence of inflammation. 3. By granulations and pus, when inflammation must be present in some degree; and *lastly*, by what may be styled the contracting process, as occurs from water dressing, and where inflammation cannot exist. By this simple and novel method, not hitherto described in books, incised and lacerated wounds heal without any connecting medium, without pain, lymph, granulations, or suppuration; but as I have just stated, they heal by a species of contracting process, from the bottom upwards, the edges at the time approaching, leaving scarcely any cicatrix, and which is never endowed with morbid sensibility, being neither hard, gristly, or painful, like that resulting from the usual mode of treatment. Of this fact I have had ample proof in my own practice."

"The mode of applying this remedy is exceedingly simple, and fortunately attended with very little trouble. A piece of lint dipped in cold water is to be applied with the soft side to the part and covered with oiled silk, which should extend considerably beyond the limits of the lint, and retained in its place by a tight bandage, or any other means the practitioner may deem proper. Any other substance capable of preventing evaporation, and sufficiently light and pliable, such as very thin Indian rubber, would answer the purpose as well as oiled silk. The dressings should be removed three times a day, or less frequently if the secretions from the parts are trifling, for the purpose of wetting the lint as it becomes dry, and freeing it from the secretions of the wound or skin, which would in a short time become irritant; therefore it is not sufficient that the lint should be merely moist, for this moisture may be occasioned by perspiration or other discharges of the part collected under an impervious substance.

Hence the lint must either be occasionally removed, or well washed in cold water, and in like manner the oiled silk or Indian rubber."

Dr M'F. thinks that the good effects of this treatment depend on the production of steam at the temperature of the surface of the body, which being retained by the impervious silk, subjects the part constantly to an atmosphere of that vapour.

Oiled silk, he continues, may also be used in the cure of *tinea capitis* with a lotion of acetate of lead, which is to be applied in the same manner as directed for the application of water, the scalp having been previously shaved, and the silk applied in the form of a well fitted cap. Dr Macartney says it will invariably cure the eruption. Dr M'F. remarks in another part of his essay that this dressing has a peculiar tendency to fill up chasms, formed by solutions of continuity of soft parts, as after the separation of sloughs in lacerated wounds, &c. He has likewise employed this dressing in conjunctival ophthalmia and sloughing of the cornea, in anomalous diseases of the skin with an inflammatory base, with good effect; and his friend, Mr Earnes, the medical superintendent to the Castle Martyr Dispensary, states in a letter that he is constantly in the habit of applying water in a great variety of cases, such as lacerated wounds, ulcerated surfaces, boils, cases of anthrax, in which its operation is wonderful,—whitlows, and some erysipelatous surfaces. "In all cases," Mr E. remarks, "in which I used the water or steam, the patients were surprised, and could not be persuaded that a charm had not been used."

For farther proofs of the efficacy of cold water affusion in local diseases, see, in the fifth volume of this Journal, a paper by Dr Tillet of Lancaster, Pennsylvania.

27. *On the Use of the Oil of Turpentine.*—The January number of the Medico-Chirurgical Review contains a long extract from a paper on this subject, by Dr Moran, published in the *Edinburgh Monthly Examiner*,—a journal, which, we believe, has not yet found its way to this country.

Dr M. seems to hold the ol. terebinthinæ in the light of a panacea; for he recommends it, and affirms that he has found it beneficial, in a very large number of diseases. Thus he speaks of its curative effects in "fevers of all descriptions," in "enteritis, peritonitis, rheumatism and podagra," in hemorrhois, catarrhs both acute and chronic, dysentery, apoplexy, paralysis, "in dyspepsia, hypochondriasis and chlorosis,"—cholera morbus—in anasarca and ascites, jaundice; "in cases of worms of all kinds, whether in children or adults," "in cases of snake bites," &c. He further suggests the propriety of using it in plague and hydrophobia.

While using the turpentine, Dr M. resorts to the usual remedies for these complaints, so that it may be difficult to ascertain the exact part that article performs in the cure. Dr M. writes like an enthusiast, and of course all he says must be taken *cum grano salis*.

28. *Acetate of Morphia applied externally.*—Dr Mauro Ricottei, of Voghera, has published in the July number of Omodei's Annals, the account of several cases of disease cured by this means. The first was one of arthritis, developed after the cure of an old ulcer. Antiphlogistics, purgatives, and other remedies were at first resorted to, but without benefit. Under these circumstances, compresses wetted in a solution of acetate of morphia (four grains to a pound of water) were applied on the wounds occasioned by leech bites. Relief from pain was soon obtained, and in a few days the cure was completed. The second case was one of inflammation of the wrist. In this case the acetate was applied to

the denuded cutis. The patient was rapidly cured. The third case is one of sciatic neuralgia; while the subject of the fourth case laboured under neuralgia of the arm. In both, the acetate of morphia, applied in the same way, was speedily efficacious.

The August number of the same valuable Journal contains the history of an interesting case of spasmodic dysphagia cured by the external application of the sulphate of morphia. It is reported by Dr Ombrini. We borrow this statement from the November number of the *Archives Générales.*

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## V. MEDICAL JURISPRUDENCE.

29. *Infanticide.*—We find an interesting memoir on this subject in the *Journ. Gen. de Med.* for November 1829, by J. B. F. Hennequin. It is entitled *Medico-Legal Questions relating to Infanticide.* The interest always attached to this subject induces us to present the article nearly entire to our readers.

A female, R——, accused of infanticide, says, in reply to the questions put to her, at one time, that the child of which she had been delivered had been dead in her womb several days before its expulsion; at another time, that this child died after its birth, in consequence of loss of blood from the umbilical cord, which she was unable to tie, on account of her weakness and fainting away; and that even had she preserved her senses, she would not have tied it, not knowing that such a precaution was necessary.

There being no document at the trial, not even the account of the examination of the body of the infant, performed by the health officer, which furnished suitable data or satisfactory evidence of either of the allegations of the accused, the judge of the second arrondissement of the department of Ardennes put the following questions, to which he wished to have circumstantial answers:

First Question.—*Can a child, dead in its mother's womb, be brought into the world, by the unaided efforts of nature.*

Answer.—Persons versed in the obstetric art are all agreed on this point, that the expulsion of a child in the usual way, is a function entirely dependent on the power of the organs of the mother. The child, of whatever sex, has no instrumentality in its birth; it is purely passive. It is adverse to sound physiology to say that its weakness or its death renders the labour longer and more painful. If the delivery is sometimes less expeditious, and more irregular when the child is dead, it is because the putrefaction with which the latter is at times affected, throws the uterus into a state of languor and prostration, so that this organ cannot contract with its accustomed energy.

It being then a recognized thing, that the contraction of the uterus, aided by that of the abdominal muscles, is the chief efficient cause of delivery, it follows that a child dead in the maternal womb, yet presenting in a natural manner, may come into the world by the unaided efforts of nature.

Second Question.—*By what signs are we able to ascertain whether a child has come into the world alive? And what are the signs of the death of a child in the womb of its mother?*

Answer.—The first part of this question is equally delicate and important: its solution, in order to be positive and free from cavil, ought to rest entirely on an examination of the thorax, lungs, heart, interauricular

foramen, the canalis arteriosus, the canalis venosus, the umbilical cord, and the diaphragm.

To live and to breathe are synonymous terms. If the child has not lived, there is no cause for suspicion. Life and respiration being inseparable, whatever in the body of the newly born child shows that respiration has been performed, becomes in itself a proof of life after birth. We may then admit that a child has breathed, and consequently that it came into the world alive, whenever the chest is augmented in size, and changed in form; so that from flat, as it was, it has become arched; when the lungs fill completely the cavity of the chest, and invest almost the entire pericardium; when their colour, of a deep red before breathing, has become clearer, and more or less pale; when the pulmonary cells are filled with air, and give to the organ an emphysematous character; when the lungs, or portions of them, put into a deep vessel, filled with clear and cold water, swim; when the interauricular foramen is nearly closed; when the arterial and venous canals are shrunk or obliterated; when the diaphragm is flattened, &c.

If, after having settled these various points of the respiratory test, we ascertain that the child has reached its full term; that no diseased condition of the lungs or other viscera exists, susceptible of influencing its vital energies; that the body presents none or scarcely any of the marks of putrefaction; that the umbilical cord is shrunk, and there are evidences of the urinary or fœcal excretions having taken place, we are justified in concluding that the child came into the world alive.

As to the signs of the death of the fœtus in the maternal womb, the object of the second part of the second question, they are little more than problematical. The absence of the apparent signs of the child being alive in the womb, does not always prove that it is so, in so positive a manner as to put us beyond the reach of error. In order to arrive at something like certainty on this point, we must class together all the signs of fœtal death.

For greater clearness and precision, we must first consider the signs which indicate the death of the child in the still occluded uterus, and then lay down those of a more evident nature, presented by the inspection of the body after birth. In general these signs will be found confirmatory of each other.

The signs, indicative of the death of the child in the uterus, are commemorative, general and particular.

The commemorative signs are all those which apprize us of the causes which could give rise to the death, of which some depend on the mother, and others on the child.

The causes peculiar to the mother are internal or moral, such as great paroxysms of anger, great fright, or chagrin, in fine, all the violent passions; and external or physical, such as falls, strains, blows on the loins or abdomen, the use of emmenagogue remedies, or of substances to procure abortion; alarming diseases, such as the phlegmasiæ, convulsions, great hemorrhages.

The causes of the death of the child in the maternal womb, peculiar to itself, are too obscure for us to attempt their enumeration.

The general signs are those which experience has sanctioned as indicative of the death of the fœtus before delivery; such are the cessation of all movements of the womb, after extraordinary agitation; an uneasy weight to the mother; pain in the loins; the abdomen hanging or falling to the right or left side, according to the attitude taken by the woman; the uterus in these different movements follows the inclination of the body; it alone changes its position, without the abdomen also inclining to

the recumbent side; when the mother complains of no longer feeling her child move about, the accoucheur by having recourse to the *toucher* at different times, cannot discover any movement, and the uterus descending, compresses the parts which surround it, so that walking becomes difficult for the mother, who believes that the child is dead, and says that it has fallen down: should delivery be retarded, she complains of many distresses, is seized with fever, &c.

These general signs would not constitute a certain prognosis of the death of the child in the uterus, if we did not add to them the particular or special signs by which the proof is made complete.

The particular signs are manifested during labour; they are more or less evident according to the period of the death, whether for a length of time, or immediately before delivery. In the first case, we see the waters of the amnios turbid, holding meconium, and having a fœtid odour; a discharge of fœtid fluid for a varying length of time; the bones of the cranium moveable, and the cutaneous tissue which covers them, livid, flabby, and easily detached; want of heat and pulsation in the umbilical cord. But we can only judge of this last when the cord is external, or when it forms a turn across the orifice of the uterus.

In the second case, that is, when death has only preceded delivery by a short time, there is no sign of putrefaction of the waters, nor of the skin, but we remark that at the moment in which the head presents at the superior strait, the skin of the cranium does not form the swelling or puffiness which we meet with when it is living; the umbilical arteries are destitute of heat and pulsation, which we ascertain by touching the cord.

All these signs ought to be presented collectively, in order to form a complete proof, otherwise they will not be sufficient to enable us to give a certain prognosis.

The sensible signs presented by the inspection of the body are of a much greater weight. Collectively, they indicate, beyond doubt, the death of the infant in its maternal womb. The pulmonary test practised, as above indicated, might alone suffice to lead us to a definitive judgment. Hence, if we find the thorax narrow, contracted, flattened; the lungs shrunk and dense, and no longer covering the pericardium; if they be of a deep red, and, when put into a deep vessel of pure cool water, sink; if the interauricular foramen, and the canalis arteriosus be free and well open; the umbilical vessels shrunk up; the bladder filled with urine, and the intestines with meconium, we have undoubted proofs that the child has respired, and, consequently, that it was not dead before delivery. The case is still more evident, when the body of the child exhibits marks of putrefaction, exhales a cadaverous odour, allows of the epidermis to be detached, and when the colour of the skin, and especially of that of the abdomen is changed and livid, &c. though the body have been but a short time exposed to the contact of the external air.

It is in the sum of the circumstances just detailed, that the physician must seek for proofs of the death of the fœtus in the maternal womb. To pretend to decide the question after a small number of symptoms, would be evidently exposing one's self to serious mistakes.

Third Question. *Does a neglect to tie the umbilical cord necessarily occasion the death of the new born child by the loss of blood?*

Answer. We can only reply satisfactorily to this third question, by presenting the results to which the numerous discussions respecting the necessity of tying the umbilical cord have given rise, and which we shall extract almost verbatim from the *Medico-Legal Manual of Cadaveric Au-*

*topsia*, by Dr Rose, from which we have largely borrowed for the preceding replies, as also from Dr Marc, his (French) translator.

1. The ligature of the umbilical cord is not in every case indispensable. When the circumstances are favourable, it may remain united, without our having to fear any hemorrhage; but we are not, on this account, to conclude that it is always superfluous, since examples are not wanting in which a fatal loss of blood has been the consequence of omitting to perform the operation.

2. We are not to conclude that a new born child, pale and exsanguine, has not perished from an umbilical hemorrhage, because the cord is found tied. It is possible that the ligature may have been delayed until the child has lost all its blood.

3. Individual circumstances render the ligature of the umbilical cord more or less necessary; hemorrhage is more to be dreaded in a feeble than a robust child; in one who has cried and respired, than in one who is still in a contrary state.

If we can not positively aver the absolute necessity of the ligature of the umbilical cord, or that the omission of it shall necessarily bring on a fatal hemorrhage, we may say that this precaution is always a good one, and that children, in the case of whom it was neglected, would not be exempt from danger, a fact which very few women are, or ought to be ignorant of, unless they bear a child for the first time. We see, indeed, occasionally, women who are brought to bed for the first time frightened when thread and scissors are obtained, believing these things to be destined for totally different purposes than that of tying and cutting the umbilical cord.

Fourth Question. *If the death of the child have been caused in consequence of omitting to tie the umbilical cord, by what signs are we to ascertain whether the hemorrhage which ensued was the cause of its death?*

Answer. The authors above cited will also furnish all the materials for this reply. The signs characteristic of the death of a child, after loss of blood, are a pale colour of the whole surface of the body, similar to that presented by wax; paleness of the viscera, discoloration of the muscles; want of blood in the arteries and large veins, and in the auricles and ventricles of the heart, especially in the anterior or right auricle. To these circumstances let us add those which apprize us of the infant's having lived. But we are not to conclude from these signs that there has been umbilical hemorrhage, unless there have existed no other lesion capable of causing a loss of blood, and we see that the body of the child is perfectly well formed, and the umbilical cord neither shrivelled up nor dry, which last would denote that blood had not been supplied to the child in sufficient quantity when it was in the womb of its mother.

We ought to be aware, that even though every thing should prove umbilical hemorrhage, we are not, therefore, to infer an act of criminal premeditation; the effusion of blood might have been occasioned during the progress of labour, either by too precipitate a detachment of the placenta, or by a laceration of the umbilical cord, especially after a sudden expulsion of the child, and the mother have fallen into a swoon.

30. *Poisoning with Opium. Uncertainty of the Chemical Analysis.*—Professor Christison, in the Edinburgh Medical and Surgical Journal for January last, after detailing the case of a woman who was reported to have swallowed two ounces of laudanum, and the treatment, by injection of warm water into the stomach, and its subsequent withdrawal, by means of the stomach pump, brisk cathartics, lemonade and coffee, the tepid af-

fusion and forced exercise, proceeds next to give the chemical analysis of the contents of the first basin obtained from the stomach by pumping, and which amounted to about five pounds.

When first withdrawn from the stomach, the fluid had a distinct smell of opium, but lost it almost entirely after exposure to the air for an hour. "At least," says Dr CHRISTISON, "when I first examined the fluid after that interval, I was not sensible of any other odour, except the usual sourish, heavy smell of the natural contents of the stomach."

Omitting the details of the analysis, we give what follows in Professor CHRISTISON'S own words.

"*Observations.* My principal object in publishing the case now described is to show, in opposition to the expressed belief of some medical jurists of authority, that even in circumstances apparently very favourable, the analysis may fail to procure satisfactory evidence of opium, in cases of poisoning with that drug.

"In this instance, two ounces of laudanum, a quantity rarely exceeded in cases of poisoning, was retained only four hours in the stomach. Very little could have been discharged before the stomach pump was used, as appeared from the want of colour of the small quantity of matter previously vomited. To the first portions of the contents of the stomach I applied the process recommended in my Treatise on Poisons—a process which I have found to be one of much delicacy, and which is derived in part from the instructions I received from M. Robiquet of Paris, when I was his pupil, and partly from an analogous method, devised by Lassaigne, for detecting acetate of morphia. Nevertheless, I was unable to develope any of the characters of morphia except its bitterness, its precipitation from a state of solution by ammonia, and the imperfect action of nitric acid, which with pure morphia produces an intense orange-red solution; and the only proof which could be produced of the presence of meconic acid was the imperfect action of the perchloride of iron, which with a very minute trace of pure meconic acid occasions in the solution an intense cherry-red colour.

"Supposing the preceding case to have been a criminal one, would these facts have constituted sufficient evidence of the presence of opium? I must confess I have some doubts on the subject. If, however, I had been quite satisfied of the opiate odour having existed in the fluid drawn from the stomach, my mind would have been made up, but no odour of the kind was perceptible to my sense of smell an hour after the contents were withdrawn; and the sense of smell is so apt to lead to error, that no sound inference can be drawn from it, unless several people agree in opinion as to the odour. The circumstances of the case show the propriety of applying the test of the odour immediately after the contents of the stomach have been removed.

"It is hardly necessary to add, that the failure of the chemical analysis in such cases is owing not so much to imperfections in the process, as to the rapid absorption and decomposition of the poison in the stomach.

"The present is not the only occasion on which my attempts to discover opium in cases of poisoning with it, have failed. But it is unnecessary to state the particulars of any others as they present no peculiarity. The subject is now becoming one of very great importance in medical jurisprudence. Many examples of poisoning with this drug have occurred where it was given for criminal purposes, either with the direct intention to murder, or for the purpose of causing stupor previous to the commission of robbery; and since the recent trials of Stewart and his wife before the Judiciary Court here for these crimes, the latter crime has become appa-

rently much more frequent than ever. It is of great consequence then, either that a delicate and certain process be devised, or at all events that the medical jurist know the exact extent of his powers."

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## VI. SURGERY.

31. *Tracheotomy.*—We have long thought that this operation has not been resorted to as frequently as circumstances would demand, and that individuals have perished, who might have had another chance for escape, if more knowledge or boldness had been possessed by their medical attendant. On the other hand, we cannot but believe that it may have been resorted to, when no fair prospect of relief existed.

In the 16th vol. of the *Archives Generales*, MM. Dupuytren and Dumeril reported to the Royal Academy of Medicine, on a memoir of M. Senn of Geneva, respecting the case of a female child, aged six years, on whom he had performed laryngo-tracheotomy for a laryngeal obstruction. This child had always had a feeble voice and impeded respiration, as well as deglutition. On the 22d August, 1826, M. Senn found his patient emaciated, with the thyroid gland double its natural size, respiration noisy, and her voice accompanied by a hissing sound, and of only half its proper force. He treated her for *goitre*, by means of a milk diet, and also the hydriodate of potassa internally, and by frictions. The gland in three weeks resumed its natural size; deglutition became easy, the patient gained flesh, but her voice was little improved. Eight months afterwards, the symptoms had again supervened with more intensity, and an organic affection of the larynx was evident. Laryngo-tracheotomy was performed on the 3d of May, 1827. The operation was performed at two sittings; at the first, the trachea was exposed; and at the second, the cricoid cartilage and the three first rings of the trachea were incised. The wound of the trachea was kept open, but the patient was much endangered on the ninth day after the operation, by the accumulation of mucus, which had almost entirely obliterated the superior part of the trachea. A canula of suitable form and curvature was introduced, and kept the orifice in the trachea open. After these accidents, the patient improved, had a good appetite, could swallow without difficulty and grew fat, while breathing through the canula. On removing the canula, and closing the opening, it was found that the voice had gained strength, and M. Senn believed that the laryngeal opening had enlarged. The canula was continued.

In the *Journal des Progres*, Vol. 17th, another report is given by the operator. During the winter of 1828, the child was attacked with pertussis, but supported it without difficulty. "I know not," says M. Senn, "whether the larynx was dilated by the paroxysms of coughing; or whether the suppuration of the wound, kept up for three months by the presence of the canula, or the re-establishment of the general health, was followed by an active absorption in the diseased tissues. Perhaps from all these causes, it occurred that in the spring of 1828, eleven months after the operation, having removed the cannula and then closed the opening, I discovered, with surprise, that the larynx was perfectly free, and even violent exercise caused no difficulty in inspiration." The canula was not replaced, and in fifteen or twenty days the fistula healed; the child has recovered her health, the voice has become perfectly natural, and the tone (timbre) not impaired. M. Senn expresses the hope that tracheotomy will be early resorted to in cases of laryngeal phthisis—not only to save the

patient from immediate danger, but to favour a permanent cure by allowing the diseased organ to remain *at rest*, while general and topical remedies may be advantageously employed. So also it will be useful in cases of tumours developed in the larynx or externally, which impede its actions.

32. *Extirpation of the Uterus.*—In our last, at p. 225, we gave some details of this operation as performed by M. RECAMIER, in July last, at the Hotel Dieu. Examination of the removed organ confirmed the diagnosis established by accurate investigation of the pelvis before the operation, and proved that all the diseased tissues were removed—a point essential to success. From the *Archives Generales* for October, we learn that M. ROUX has since performed two similar operations, the details of which are given. In the *first*, the patient was 55 years of age, and had a cancer of the neck of the uterus, and after a careful examination by MM. RECAMIER, DUPUYTREN and ROUX, the ablation of the uterus was regarded as the only chance of safety for the female. It was accordingly performed by M. ROUX on the 20th of September last at 9, A. M., in the manner indicated in our last number. In this case, tumours on the anterior part of the neck of the uterus, rendered the separation from the bladder tedious and difficult; and, after the ligatures were applied to the lateral ligaments, prevented the antiversion and descent of the organ, until part of the perineum was divided. Very little blood was lost. The operation lasted half an hour.

"The patient was much exhausted, pulse frequent and very feeble; in half an hour there was some reaction, which was assisted by warm drinks and chicken water. In the evening the abdomen became painful; six leeches were applied to the hypogastrium (!); they were suffered to bleed but little, in consequence of the weakness of the pulse and the general pallor. The patient remained in a state of stupor, from which she could not be roused; death occurred on the 21st at 6, P. M."

*Necropsy.*—The pelvis contained 2 oz. of serosity; no evidence of peritonitis or any other inflammation. The left ovary was soft, and transformed into an encephaloid substance. On the right, there were numerous encephaloid tumours, more advanced. The posterior surface of the bladder presented a round opening, at least four lines in diameter.

In the *second* case, the patient, aged 38 years, was admitted into La Charité on the 25th of August last, with a severe cancerous disease of the uterus. After many examinations by experienced surgeons, M. ROUX operated on the morning of the 25th of September.

In this case also, the antiversion of the uterus was executed with great difficulty, and gave rise to severe hemorrhage. The right ligature broke and was not replaced. The operation lasted near thirty minutes, and the patient suffered much.

Immediately after the operation, the patient was pale, cold; the pulse small, frequent and threadlike, and there was a slight scarlet coloured hemorrhage per vaginam. No reaction ensued; some tonics were administered, but ineffectually; and death occurred on the 26th, at 10, A. M.

*Post Mortem.* The pelvic cavity was found to contain a small quantity of blood; the serous membrane was of a rose colour, and the subjacent cellular tissue was already becoming friable. The bladder, rectum, and other viscera were sound. The left ligature was found embracing exactly the broad ligament at its inferior part. On the right side, the exact source of the hemorrhage could not be discovered.

In the *Journ. Gen.* for October, the cases of RECAMIER and ROUX are given with all the necessary details, and the learned editor, M. GENDRIN, has compiled a history of all the cases in which the uterus has been extir-

pated, where there has been no prolapsus or retroversion of the organ. In Germany, although frequently proposed, and made the subject of special investigation, extirpation of the uterus in situ has been performed but once, and that in 1821, by M. SAUTER, physician at Constance. The patient recovered from the effects of the operation, but died of a cancerous disease. In England it has been executed six times; four times by Mr BLUNDELL, once by Mr BANNER, of Liverpool, and once by Mr LIZARS. One of Mr BLUNDELL's succeeded; the result of Mr LIZARS's is yet unknown.

In France it has been performed three times, as already detailed.

Of these ten operations, the result of one is unknown; three patients of the remaining nine recovered; and of these one has since died of a return of the cancerous affection. In all there was immediate and great depression of the vital powers; and in no case has there been any hemorrhage sufficient to cause the fatal result. Those that died, have perished during the two first days, not from inflammation, but from prostration. In two cases, one of SAUTER's and one of ROUX's, the bladder was opened during the operation. M. GENDRIN proposes a new method of operating, which he thinks would be superior to those given. But we have no room for further details.

This severe and dangerous operation of extirpating the uterus in situ, would seem at present hardly justifiable, except in cases, not only favourable in themselves, where all the diseased structure can be removed, and the patient's health not too much impaired, but where the patient *solicits the attempt*. We doubt the *morality* of placing life in such immediate and imminent danger, even for the chance of ridding the patient of a disease fatal in its tendency, but which in most cases but slowly undermines the powers of the system. More force is imparted to this observation when we reflect on the uncertainty of the diagnosis as respects the extent, and even the nature of the disease, and the worse than useless attempt at extirpation, when adjacent tissues are also involved, as occurred in one of the above recorded cases. Fortunately, in America, the opportunity for such operations is rare, and we may safely and quietly wait the result of European experience, which promises to be extensive.

33. *Twisting arteries for arresting Hemorrhage.*—Much is now said in the European Journals, of the practice of AMUSSAT and others, respecting the method of twisting arteries, as a substitute for ligatures, in cases of hemorrhage. We were not aware that all surgeons were not familiar with this practice. In this city, certainly, it has been known and carried into effect for many years. Professor GIBSON long since recommended that the coronary arteries of the lips, in operating for hare-lip, should be twisted and bruised by the extremities of a forceps, so that ligatures need not be employed, and union by the first intention be readily effected.

34. *Indolent Ulcers.*—In the Edinburgh Medical and Surgical Journal for January 1830, Mr JAMES SYME has recommended the use of blisters in the treatment of indolent ulcers. With us, this is an old and an established practice, experience confirming its utility. Mr SYME says, he was induced to employ blisters from having observed old ulcers heal rapidly after the limb had recovered from an attack of phlegmonous erysipelas; he hence recommends that blisters should be applied, not only to the surface of the ulcers, but to the surrounding skin, and believes their utility depends on promoting the absorption of the effused serum, as œdema, he says, is an insuperable obstacle to the healing of an ulcer.

He is very partial to Baynton's method, which he believes only inferior to blisters, but insists that the adhesive straps should completely encircle the limb. The straps are useful by removing œdema.

Mr Syme advocates the sentiments of M. Fabre and Louis of the French Academy, that there is no regeneration of parts in the granulating process. He adduces no new facts, and admits that bones are regenerated by the granulative process, but denies the same power to the soft parts. As he says, facts must decide; and we believe from our own observations, as well as from the observations of others, that soft parts are often regenerated by the granulative process. The obliteration of the cavities of large abscesses cannot be explained by the sinking of the surrounding parts; neither can we believe Mr Syme's assertion, that the cavity which contains the pus is formed, not by the destruction of any tissue, but by distention of skin and subjacent organs.

35. *Wounds of the Brain.*—That patients should recover from wounds of the brain, especially with loss of substance, has appeared very improbable, but no doubt can now exist of its frequent occurrence. Some, however, are still incredulous as to the absence of dangerous symptoms from wounds interesting the membranes and substance of the brain; and, in the treatment of such cases have, we verily believe, been led, from fears of inflammation and its consequences, to pursue an antiphlogistic course with so much rigour, as actually *to prevent the restoration of the injured part, and even to induce a fatal exhaustion.* It is always difficult to avoid extremes. With the view of confirming the opinion that wounds of the brain are frequently followed by few bad symptoms, we publish with pleasure the following summary of cases as detailed by Dr Felix Robertson of Nashville, Tennessee, in a letter to Dr Norvell, who has politely offered them for publication. "I well recollect the case of Hale, you mention, but did not take notes of it. The injury was inflicted by a two pound iron weight on the left side of the frontal bone, extending some distance down the forehead, and so completely breaking the bone that the fragments were very numerous, and many of them driven through the membranes deep into the substance of the brain. They were removed without trephining, and the wound simply dressed. No untoward symptom occurred, and the patient gradually recovered. There was great prostration of vital strength, which continued for a long time.

"A similar case occurred to me, some ten years previously, in an old negress. Her wound was received immediately over the left eye, and extended from the eyebrow to the hairy scalp. It was inflicted by a strong negro man striking her with a triangular piece of timber held with both hands. The wood was literally driven into the brain, carrying with it some fifteen or twenty fragments of fractured bone, and depressing a large portion at the upper part of the wound nearly an inch. The fragments, some of which were driven deeply into the substance, were removed by the forceps. The large depressed portion was not disturbed, after ascertaining that it could not be elevated by moderate efforts. The sloughs, on separating, exposed the brain to a considerable depth, where the arteries could be seen pulsating. Not less than a table spoonful of brain was lost, and the cavity appeared larger than it really was, as related to the brain, as the lower part included a portion of the frontal sinus. The depression would have held half a gill of fluid. The patient was a very intemperate woman, of at least sixty years of age, and was intoxicated at the time she received the blow. No stupor occurred at any time. In less than a week she was out and drunk, and continued in that state nearly

half the time of her cure. She has had good health since, and was living not long since when I last inquired after her.

"I have attended another case which also terminated favourably. It was a negro boy, aged ten years, who received a wound on the forehead from the kick of a horse. It was a glancing blow which took off a piece of the integuments of the skull and membranes, and a small portion of the brain, as smoothly as if removed by a sabre. This boy was insensible for a few minutes, but recovered without a bad symptom."

36. *Hemorrhage from an Ulcer in the Fauces; Ligature to the common Carotid.*—In the December number of the London Medical and Physical Journal, Mr Herbert Mayo records the case of John Webb, aged twenty-three years, who was admitted on the evening of the 18th of October into the Middlesex Hospital. He was reported to have suddenly lost a quantity of blood from an ulcer in the fauces. The hemorrhage had stopped. Next morning, about nine o'clock, it burst out afresh, and in a few minutes two quarts of blood were lost. Mr Laidlaw, the house surgeon, succeeded in arresting the hemorrhage by pressure on the carotid artery. Mr Mayo found the patient greatly exhausted, pale and bloodless; a ragged clot of blood was adhering to the right side of the pharynx. He immediately secured the common carotid; no blood was lost from the incisions; the pulsations of the artery were exceedingly feeble, and the internal jugular vein lay shrunk and collapsed. Faintings followed; stimuli were successfully employed. The patient's system reacted; there was no return of the hemorrhage, and the ulcer of the throat commenced granulating on the 31st of October, under the use of fumigations with the vapour of cinnabar, and was completely cicatrized on the 16th of November. The ligature from the carotid came away on the 3d of November, the fifteenth day after the operation. Mr Mayo considers that the lingual artery was opened by the ulceration.

In the London Medical Gazette (also in the London Medical and Physical Journal for January 1830) another case is related, in which Mr Luke successfully tied the common carotid for a sloughing ulcer in the throat, attended with dangerous hemorrhage.

37. *Artificial Anus.*—M. Casamayor (*Journ. Hebdom. No.* 43; *Medico-Chirurg. Review*, No. 23, *N. S.*) has operated for an artificial anus after the manner of Professor Dupuytren. In this case the preternatural opening existed in the vagina, being the consequence of a severe labour, through which all the fæces from the upper portion of the bowels were discharged. On examination, per vaginam and rectum, there was reason to believe that the ilium was the intestine injured, and it was found that a very small space intervened between a finger in the rectum and one introduced into the ilium through the preternatural orifice. By means of a pair of forceps (the handles of which separated) constructed for the purpose, and which are minutely described, an ulcerated opening was effected between the two intestines, about an inch from the vaginal aperture, nearly circular, and sufficiently large to allow two fingers to pass readily from one intestine to the other. The fœcal matters passed now in greater quantity by the anus than by the vagina. The attempts, however, to cure the vaginal orifice failed. Some time after, (how long does not appear,) the patient was suddenly attacked with a violent pleuro-pneumony from cold, and died in four days.

38. *Diseases of the Spine.*—In the 105th and 106th numbers of the London

Medical Gazette, a clinical lecture by Mr CHARLES BELL on the accidents and diseases of the spine is given.

He adopts, as a division of accidents of the spine, dislocation, subluxation, diastasis and sprain; and first gives a case of diastasis, in which the patient died suddenly on the third day after the accident. "Diastasis is that case where the bones separate, but resume their places, and in this it is distinguished from subluxation, in which the bones are locked together." On dissection in the case given, the ligamentum processuum spinosorum was torn between the fifth and sixth cervical vertebræ, and these vertebræ were separated at the back part, so that the finger could be introduced between them, and touch the sheath of the spinal marrow. The bodies of the vertebræ were loosened by the invertebral ligament giving way, and the one vertebra could be made to slide forwards over the other. The matter of the spinal marrow was found to be soft, ecchymosed, and a little burst from its pia mater, no doubt owing to the fifth vertebra being forced against it at the time of the accident, although it had afterwards resumed its place. In such cases, the antiphlogistic treatment is all that can be useful, as the bones are reduced.

The second case is one of *subluxation* at the last dorsal and first lumbar vertebræ, which formed an abrupt angle; a depression could be felt, for the extent of an inch, between the two most prominent spinous processes; the transverse process started out and pressed against the skin. There was no loss of sensation, and motion was not destroyed. The accident happened on the 18th of August 1828, and on the 4th of October following he had left the hospital, the deformity remaining, and great difficulty existing in all attempts to walk, or even to support his body without the assistance of his hands on his knees. The patient is considered as liable to secondary inflammation.

A third case is that of inflammation and abscess, of the lower dorsal vertebræ, involving portions of the lungs, and causing death. Such cases are unfortunately very common. Here there was the posterior curvature, owing to the partial absorption of the bodies of two or more vertebræ.

In some rare cases, one of which Mr Bell alludes to, this same condition of the vertebræ gives rise to a slight lateral curvature, in addition to the posterior projection. This should be distinguished from the "lateral distortion." In alluding to the treatment, Mr Bell observes that instruments for diseases of the spine are abused. The chasm from absorption is so great that there must be impropriety in that treatment in which the patient is raised by instruments, or extended horizontally. There is danger of the sudden falling down of the spine, by which the spinal marrow may be injured to a fatal degree. The process of cure it is well known is by bony anchylosis. This occurs on the removal of motion, the great source of irritation and inflammation. "How can all this take place if the remaining surfaces of the diseased vertebræ be held apart by means of instruments? Instruments must be employed to steady the trunk against lateral motion, and to sustain the weight of the upper part of the body, thereby to prevent the pressure and attrition of the inflamed surfaces of the bones, but not to separate the surfaces."

These are knotty questions which experience must decide. We believe, however, that facts as yet are in opposition to Mr Bell's reasoning. Vide papers and cases by Dr J. K. MITCHELL, in the first and fourth volumes of this Journal.

Mr BELL is surprised that any should abandon issues and setons in these accidents, as reason and experience combine in recommending them. We may observe, that in this country the practice of almost constant purgation

is found more convenient and effectual than that of issues. If necessary, they may be advantageously combined.

As to the cause of paralysis in diseases of the spine, Mr Bell refers it to inflammation, and not to pressure. The degree of paralysis varies, not according to the degree of curvature, but to the degree or stage of inflammation; and patients recover from all paralytic symptoms while the deformity remains.

Distinction must be drawn carefully, but sometimes this is by no means easily done, between the paralysis from diseased spine, and that partial paralysis which sometimes occurs from affections of the brain. Attention must be paid to the condition of the brain and to the movements of the upper extremities.

Mr Bell also observes that in cases of curvature of the spine, patients are often distressed with pain in the lateral and anterior part of the chest. This does not in all cases arise from inflammation; but often from the pressure of the vertebræ on the ganglions or trunks of the nerves, the foramina are contracted, and not to be relieved therefore by antiphlogistic treatment.

The lecture concludes by noticing some cases of sudden and chronic dislocations of the spine. But we refer our readers to a review of Mr Lawrence's paper on this subject in the sixth volume of this Journal.

39. *Portion of Bone lodged for forty-eight hours in the Trachea of an Infant.* In the *London Med. Gazette*, No. 105, Mr Thomas Stabb relates, that on the 20th of September, 1829, his child, aged ten months, detached a small portion of bone about the size of a large marrow fat pea, from a bone of a neck of mutton. It slipped into her windpipe, and produced violent coughing for about five minutes, when it ceased, leaving a noise in breathing like that produced by a saw. In twenty-four hours there was much irritation and fever, with difficulty of breathing, which were subdued by the usual remedies. After the fourth day, the child seemed as well as usual, except this constant wheezing. On the 3d of November, six weeks after the accident, violent cough and irritation supervened from exposure to cold; antimony was given, and on the 7th, after a dose which produced vomiting and general relaxation, and while the nurse was briskly rubbing the throat with a volatile embrocation, the head being bent back over her lap, she was seized with a violent fit of coughing, and threw up the piece of bone embodied in mucus, which had been retained forty-eight days in the trachea; her breathing almost immediately became natural, and the next day she was as well as ever. The piece of bone was very rough, of a triangular shape, and the edges quite sharp.

40. *Aneurism; Ligature beyond the Tumour.*—The example and success of Mr Wardrop have given rise to renewed attention to this operation. We have already recorded facts, and shall continue to collect them, until the proper principles and circumstances of the operation are fully established. In the *Medico-Chirurgical Review* for January, 1830, a case is related of aneurism of the lower portion of the left carotid, in a free black, aged forty years, rather given to intemperance, and a native of the island of Mauritius. He was admitted into the Civil Government Hospital, as a patient of Mr. A. Montgomery, of the Royal Navy, on the 20th of February 1829. The disease continued to increase, so that on the 9th of March it was of an alarming size, and endangered life by pressure on the trachea, or by rupture. The operation was immediately performed, one ligature being applied. On the 10th, the patient felt much relieved, and the pulsation of the tumour was less distinct. On the 12th, no pulsation could be seen or

felt. On the 14th, the tumour was reduced to one half its original size, and in the recumbent posture an indistinct pulsation was again perceptible. The tumour continued to diminish in size, but on the 18th, it is recorded, that a distinct pulsation is perceptible at a small point on the humoral side of the aneurism. On the 19th this pulsation was less distinct. On the 20th slight hemorrhage from the wound; the ligature remains: pulsation at the point mentioned more distinct, but no where else over the tumour. 22d. Hemorrhage from the wound, followed by chills and suspension of pulsation in tumour. On 23d, tumour pulsating freely; no more hemorrhage. 24th. No bleeding. 25th. Pulsation lessened. 26th. Wound suppurates; no pulsation evident. 28th. Ligature came away and tumour enlarged. April 3d. A small abscess discharged at fistula from the ligature. May 28th. The tumour continued to enlarge, and has suppurated. On the 29th it opened by ulceration; about eight ounces of fetid chocolate coloured fluid were discharged; no hemorrhage. On 30th opening was enlarged, and six to eight ounces of pus were again evacuated. No pulsation could be felt when the artery was pressed upon by a finger in the cavity of the abscess. No bad symptoms, the patient daily improved, and on the 8th of June, the last date, the patient could walk out of doors; there was no discharge from the wound, which was on the eve of healing, and all swelling has entirely disappeared from the neck.

41. *Hydro-rachitis.*—In the *Medical Gazette* is recorded a case of congenital hydro-rachitis. The tumour was of the size of a small egg on the site of the sixth curvical vertebræ, and was not affected by pressure on the fontanelle. Dr Ghidella passed a seton through its base, when the infant was three days old; it was continued forty days. The second month, the tumour was empty, and shrunk. Nutrition was established, and the patient did well.—*Giornale di Chirurgia Pratica.*

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## VII. MIDWIFERY.

42. *Extra-Uterine Pregnancy.*—In the *Arch. Gen.* for October, is related a case of extra-uterine pregnancy, by Dr Wilmans, in which, at the expiration of fourteen years, the patient having in that time borne four living and healthy children, the encysted fœtus was discharged by fragments through the rectum and urethra. She suffered much, was greatly emaciated, and for a long time hectic, but eventually recovered. The account is given in detail from *Hufeland's Journal.*

43. *Cæsarian Operation per Vaginam.*—In the *Archives Générales* for October, we find recorded the case of a female pregnant for the third time. At the end of three months she suffered greatly from nausea and abdominal pains. Palliatives were employed, but the poor woman had to attend to a laborious occupation for subsistence. On the 14th of July 1829, (at what period of gestation does not appear,) the pains were so severe that assistance was essential. M. Caignou saw her at 11, P.M. suffering from pain and fever, and much exhausted. Examination evinced that the head of a fœtus existed in a tumour posterior to the vagina, while the os uteri, being partially dilated, and giving discharge to portions of a deciduous membrane, and a fetid bloody fluid, was turned forwards, and above the pubis. There was evidence of severe peritonitis. Bleeding and other appropriate means were directed. Next morning, M. Caignou proposed, in consultation, an incision of the vagina and cyst, for the delivery of the

infant, which was opposed. *Two days* afterwards, the operation was agreed upon, when a new and more numerous consultation was held, including Desormeaux, Deneux, and Velpeau. An incision was made, so as to expose the head of the fœtus. *The cyst which contained it contracted at the same time that a pain supervened.* These contractions were not sufficient for the expulsion of the fœtus, which was then extracted by artificial means, and found to *be living*. There was no hemorrhage; the placenta, which was found adherent on the left side of the cyst, was left. The patient was greatly exhausted, and died the next day.

*Autopsy.*—The abdomen contained a purulo-sanguineous fluid. The uterus measured four to five inches in length, and three to four transversely, and eight to ten lines in its parietes. On each side of the body of the uterus, and within, there existed a cul de sac much distended. The decidua was softened; the left ovary, also softened, was situated on the posterior part of the cyst. The cyst was adherent to the uterus, was quite thin at the posterior, and on the right superior portion. The intestines and omentum mutually adherent were in a gangrenous condition. The size of the tubes and their cavities was preternaturally great. The placenta adhered firmly, by a very large number of vessels.

44. *Rupture of the Perineum.*—This accident is said to occur frequently, and to be managed with difficulty. We learn from the *Nouv. Bib.* for September 1829, that M. Dieffenback of Berlin, after applying strong sutures by means of curved needles, recommends, if the tension be considerable, so as to endanger the tearing out of the ligatures, that an incision be made through the soft parts parallel to the original rent. The lips of the new wound separate, the sutures experience no further strain, and consolidation readily ensues. He recommends simple cold fomentations to the parts.

45. *Imperforated Uterus.*—From the *London Medical Gazette* we learn that M. Hervez de Chegoin read before the Academy an account of a case, in which the uterus was imperforated, and an entire absence of the neck. The menses had been retained for seventeen years, and latterly this circumstance had given rise to dreadful sufferings. The vagina, four inches in length, ended abruptly, and the uterus could be felt at some distance, about its termination. A trocar was plunged from the upper part of the vagina, through the parietes of the womb, and a gum elastic tube introduced. The patient did well.

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## VIII. MATERIA MEDICA AND PHARMACY.

46. *Salicine.*—In our last number we noticed the discovery of an alkaline principle in the bark of the willow. This is called *salicine* by the French chemists: in accordance with the nomenclature adopted in England and America, it should be named *salicia*. In the *Archives Générales* for December last, the sulphate of this alkali is said to have been successfully employed as a substitute for sulphate of quinia, in the treatment of intermittent fevers. The fact was communicated to the *Royal Academy of Medicine* in a letter from M. Gerardin. From a statement in the preceding number of the *Archives*, it would appear, that the credit of the original discovery of salicine is due to M. Buchner of Germany, and that M. Rigatelli of Italy had known and used it as a febrifuge before the period of its discovery by MM. Leroux and Comesny of France. According to

M. PELLETIER, it has been found upon trial in the *Hospice de la Charité* to be much less active than the alkaline principles of the cinchona.

47. *Cainca.*—In the *Revue Medicale* for October, we are supplied with some additional information relative to the peculiar bitter principle of this root, which our readers may remember was introduced to their notice in the last number of our Journal. We now find the plant denominated *Chiococca Anguifuga* instead of *C. Racemosa*, the name by which it was first announced. M. CAVENTOU derived the principle from the bark of the root, not from its ligneous portion. He found it to redden turnsol paper, and to unite with the alkalies. It is contained in the aqueous decoction of the root, and appears to be held in solution by the presence of lime. Acids precipitate it from the decoction in a pulverulent form, which becomes crystalline as the liquor cools. There are also other peculiar principles in the root, which possess, however, little or no interest. One of them is said to resemble the pectic acid, assuming, when precipitated, a gelatinous form; but it differs from that substance in being soluble in alcohol.

The bitter principle of the cainca has been very successfully employed by Dr FRANCOIS as an active diuretic. He prescribes it in pills, and has not witnessed any unpleasant consequences from its use. It does not purge, although the powdered root itself, and the extract, are said to possess cathartic properties.

The great uncertainty of our diuretic medicines renders it highly desirable to add to the list all those which come well recommended; and the testimony in favour of the *cainca* is sufficiently strong to entitle it to a more extensive trial. We hope that our apothecaries, who are in constant communication with Paris, will recollect this article in their next orders.

48. *Variolaria Amera a substitute for Cinchona.*—According to M. CASSEBEER, this species of lichen, which grows in abundance on the bark of the beech tree in mountainous forests, possesses a bitter principle similar to those of cinchona. It results from the experiments tried by the author upon this plant, that it has the same febrifuge properties as the Peruvian bark.—*Magazin fur Pharm. through the London Med. and Phys. Journ. for November* 1829.

49. *Nicotin, the active principle of Tobacco.*—We derive the following statements from the *Archives Générales* for November last, which refers to *Geiger's Magazin fur Pharmacie* of December 1828. MM. POSSELT and REIMANN have described a new vegetable alkali in tobacco, for which they propose the name of *nicotin*, but which we should preferably designate by that of *nicotia*. VAUQELIN did not succeed in procuring it in a pure state; and the *nicotianin* of M. HERMBSTŒDT, considered by that gentleman as the active principle of tobacco, appears to be an essential oil existing in the solid state at ordinary temperatures. MM. POSSELT and REIMANN undertook a new set of experiments, the result of which they laid before the Faculty of Medicine of Heidelberg, by whom they were approved.

The process by which they obtained the new principle is sufficiently simple. They boiled twelve pounds of tobacco leaves in water acidulated with sulphuric acid, evaporated the filtered decoction by a gentle heat, and treated the residue with alcohol. The tincture was then distilled so as to separate the pure alcohol; and the aqueous residuum, after the addition of hydrate of lime was submitted to a new distillation. To the product thus obtained ether was added, the mixture was well shaken, and the ether

then distilled off: another portion of ether was added, which was also distilled; and the process was repeated till the residuum ceased to present an acrid taste. The several portions of ether which came over were mixed, and treated with chloride of calcium: and the anhydrous ethereal solution thus procured was distilled by means of a salt water bath. The result of this operation was the nicotin. The authors procured two drachms of this alkaline principle from the 12 lbs. of tobacco which they employed.

Pure nicotin is liquid at about 21° of Fahrenheit. It is transparent, of a reddish brown colour, and of a pungent odour similar to that of dry tobacco. The smell is rendered more penetrating in proportion to the elevation of temperature. Its taste is extremely acrid and burning, and remains long upon the tongue. When dropped upon paper it produces a greasy stain, which, however, completely disappears in the space of two hours. It is volatilized upon exposure to the air, leaving a slight residue of resinous matter. It boils at 474° F., rises in white vapours when heated to near the boiling point of water, and takes fire upon the application of a lighted match. It is heavier than water.

Nicotin is soluble in water in all proportions, and its solution presents manifest signs of alkalinity. Diluted with 10,000 parts of water, it still very perceptibly preserves its acrid taste. It is also completely soluble in alcohol, ether, and the oil of almonds. The alcoholic and ethereal solutions may be distilled, leaving the nicotin behind: but towards the end of the process, the alcohol or ether which comes over presents some traces of the alkali. The ethereal solution, mixed with sulphuric, muriatic, tartaric, or acetic acid not concentrated, yields all the nicotin it contains to the acid; and the resulting salt, being insoluble in ether, is precipitated.

Neutralized by concentrated phosphoric acid, this alkaline principle furnishes a colourless liquid, of the consistence of syrup, which, evaporated by the sun, affords crystals similar to those of cholesterine. The sulphate forms a thick mass, not crystalline, and still possessing acid properties. The oxalate and tartrate are crystallizable and perfectly soluble salts. Concentrated nitric acid reacts powerfully upon nicotin, and in great measure destroys it.

50. *Copaiba.* At a meeting of the Academy of Medicine at Paris, M. Guibourt, after having reported unfavourably of a newly proposed preparation of copaiba, took occasion to make some observations upon the solidification of this substance by magnesia. He stated that the copaiba which readily dissolves in alcohol, and which upon being boiled in water affords a hard resin, is easily solidified; while on the contrary, that which remains soft notwithstanding the boiling, and which cannot be completely dissolved by alcohol, commonly contains a quantity of fat oil which prevents its perfect solidification. According to M. Guibourt, the use of ammonia as a test of the purity of copaiba, as recommended by M. Planche, does not always afford certain indications. M. Batka, a celebrated pharmaceutist of Prague, who was present at the meeting, said that an alcoholic solution of pure potassa quickly saponifies copaiba contaminated with any fixed oil, but produces no such effect when the article is pure. *Archives Générales, Octobre* 1829.

On the same occasion M. Chevallier announced that unsized paper answers as a test of the presence of fixed oil in copaiba. When spread upon the paper, and exposed to a gentle heat, if perfectly pure, it dries, and presents a layer of resin, without staining the paper. If on the contrary any fixed oil is mixed with it, an oily areola is formed around the drop of copaiba, which does not become dry, nor assume a resinous appearance.—*Journal de Chimie Medicale, Nov.* 1829.

51. *Jalap the product of an Ipomœa.*—The question whether the true jalap plant is a convolvulus or ipomœa seems now to be settled. Professor Coxe, of the University of Pennsylvania, having procured from Xalapa a number of the plants in a growing state, placed them in his garden, and succeeded with great care in bringing them to such perfection, as to authorize a decision upon their botanical character. He has no hesitation in pronouncing the plant to be an ipomœa, and is supported in his decision by the opinion of Mr Nuttall, one of the first botanists of this country. A paper by Dr Coxe upon the subject, is contained in the American Journal of the Medical Sciences for February last.

52. *Powerful Hydragogue Cathartic from the Momordica Operculata of Linnæus, the Koosia or Kusia of the Indians.*—In the Edinburg Medical and Surgical Journal for January, Dr John Hancock, whose interesting paper on sarsaparilla was noticed in our last number, has published some remarks upon a species of Momordica, called by Linnæus M. operculata, which is indigenous upon the sandy shores of the Essequebo, and in various parts of the interior of Guiana. It is a scandent vine, having the appearance of the common cucumber, and belongs in the Linnæan system to the Monœcia monodelphia, natural order cucurbitaciæ. The fruit consists, when matured, of a dry capsule, inclosing a white reticulum, or web-like substance, which lies loose, or is but slightly attached to its envelope. The web forms the true receptaculum of the seeds, which are black, compressed, and numerous. It usually weighs about six or eight grains, is exceedingly bitter, and is the active part of the plant. The seeds and outer shell or capsule are inert. Dr Hancock proposes to denominate this medicinal substance *Kusia*, the title by which the plant is known among the Indians.

Its most striking sensible property is its intense bitterness, with which that of quassia bears no comparison. It is one of the most powerful hydragogue cathartics in nature, and appears also to possess tonic properties, which Dr Hancock ascribes to its bitterness. Water dissolves its active principles, and the infusion is considered the best form for administration. The dose is one grain.

When given alone, it is apt to excite vomiting. After numerous trials with a great variety of substances, Dr Hancock found that common salt, or cream of tartar, answered more effectually than any other adjunct, the purpose of moderating the action of the remedy upon the stomach, and giving it a more certain direction to the bowels. The dose of a grain in infusion, with the addition of either of these salts, seldom causes vomiting, unless when the stomach is foul.

Two of the capsules, containing from twelve to sixteen grains of the active matter, may be infused in a quart of boiling water, with a table spoonful of common salt; and from one to two fluid ounces of the infusion may be taken for a dose. Supertartrate of potassa may be substituted for the common salt; but in this case the quantity of water, and consequently the dose should be quadrupled.

Dr Hancock recommends the remedy to be given in a full dose at once, as it is thus more effectual, and no danger is to be apprehended from its operation; for even should hypercatharsis occur, it may be readily controlled by the usual means. He also recommends that the patient lie down for an hour or two after taking it, in order to prevent vomiting, which, with this precaution, seldom occurs.

In a full dose, the kusia, prepared as stated above, especially with the addition of a tea spoonful of cream of tartar, acts as a most potent hydragogue cathartic and diuretic; and if taken warm produces also diaphoresis.

In smaller doses it is an excellent alterative and stomachic. In either case its use is followed by much increase of appetite. For delicate stomachs, the addition of liquorice renders it less offensive. Dr HANCOCK has given it with success both in ascites and general dropsy, and has found it useful in other diseases.

From the above account this cathartic would appear to possess properties which render its introduction into general practice highly desirable. Possessing all the virtues of elaterium, it appears to be much more uniform in its dose, less apt to be adulterated or improperly prepared, less dangerous in its operation, and at the same time, from its great abundance, likely, if once brought into use, to be much less expensive. Dr HANCOCK says that cartloads of it might soon be collected in Essequebo, in the months of March, April and May.

53. *Effects of Camphor on the System.*—To the September number of the *Revue Medicale*, we are indebted for an account of some experiments on camphor by Dr LUCA SCUDERIO, of Messina, originally published in the Transactions of the Medico-Chirurgical Society of Bologna. These experiments were performed by the Doctor upon himself and upon several other medical gentlemen; and the inferences drawn from them were not deemed satisfactory till their correctness had been confirmed by the results of repeated trials. Not having space for the insertion of the particulars, we must content ourselves with stating the conclusions at which he arrived, after a considerable period of close investigation. It will be perceived that some of them are by no means novel to the American practitioner.

1. Camphor, in the dose of eight or ten grains, produces only a slight disturbance in the system of a healthy man; and in cases of sickness may be taken in the quantity of from one to two scruples, divided into several portions.

2. It augments excitability and vital energy, rendering the circulation more active, and increasing animal heat.

3. It occasions no irritation nor pain in the stomach or bowels, produces constipation, and expels worms from the alimentary canal.

4. It acts electively upon the genito-urinary apparatus, the functions of which it augments in force and energy, as evinced by the voluptuous dreams, and the *erethism* of the generative organs, and by the sensation of burning along the course of the urethra, as well as increased discharge of urine, which attend its operation.

5. But it is peculiarly on the nervous system that camphor acts, either through the medium of the brain, of the cerebellum, or of the great sympathetic nerve. The vertigo, headache, and various other phenomena to which it gives rise, are sufficient to establish the fact. To its influence upon the nerves we may perhaps attribute the acceleration of the circulation, and the great activity exhibited by the genito-urinary apparatus, which is known to have a dependent connection with the great sympathetic.

6. Camphor is increased in activity when united with a stimulant substance, as with alcohol for example: on the contrary its action is diminished, or at least is supported much more easily, when it is combined with medicines of an opposite nature, especially with nitre, which considerably diminishes its energy.

54. *Asparagus a Sedative.*—Most of the medicines which depress the circulation, such as digitalis and hydrocyanic acid, have the property also of irritating the stomach. M. BROUSSAIS thinks he has found in asparagus a substance which acts as a sedative to the heart, without exciting gas-

tric irritation, when taken moderately, and properly prepared. A person affected with hypertrophy of the heart will find himself relieved by eating this vegetable, and upon omitting the use of it will experience a return of his habitual sufferings. But asparagus is not to be had at all seasons. A gentleman who had found in his own person great advantage from its sedative operation, conceived the idea of preparing a syrup from the heads of asparagus, which he preserves and uses throughout the year, when he cannot obtain the fresh shoots. He is thus enabled to alleviate the habitual irritation of his heart, and even thinks that it is diminished. This gentleman communicated his experience to his physician, who, after frequent trials with the remedy, is satisfied of its efficacy.

M. Broussais states, as the result of his own observations, that the syrup of asparagus has the property of moderating the pulsations of the heart without irritating the stomach, unless it be taken in very large doses, while the stomach is in a state of phlogosis.—*Annales de la Med. Physiolog. Tome XVI. p.* 12.

55. *The Anti-scrofulous Liquor of Kœchlin.*—This preparation, originally employed by professor Kœchlin of Switzerland, from whom it derived its title, has obtained great reputation in some parts of Europe as a remedy in scrofulous affections. The following is the formula given by Tromsdorf:

Take of copper rasped a drachm; water of ammonia an ounce and a half. Digest them for eight days in a covered vessel, frequently shaking the mixture till it assumes a blue colour. Decant the clear liquor, and call it *Tinctura Cupri Ammoniati.* Take of this tincture two ounces; muriatic acid sufficient to saturate it, (310 grains), mix them. One drachm of this liquor, containing about four grains of copper, is then to be added to ten ounces of distilled water: the result is the liquor of Kœchlin.

The dose of this preparation is for children from three to eleven years old, a teaspoonful; for adults a tablespoonful, to be taken once a day immediately after the principal meal, and to be followed without delay by one or two tablespoonfuls of good wine previously sweetened with sugar. M. Harel, the author of the communication from which this notice is taken, is convinced that half the dose just mentioned is almost always sufficient, and that prudence demands this reduction. After the medicine has been administered for some time, the appetite increases, and the digestion improves. Should no apparent effect be produced, the dose may be considered too small, and should be gradually increased. On the contrary, should the digestive organs be disordered, and the appetite diminished, the dose has probably been too large, and the use of the medicine should be suspended. The liquor of Kœchlin should not be administered with a view to any speedy effect, even though it were possible to give it in large quantities without danger. It is only by slow degrees that the scrofulous affection is corrected, under its influence, by a more active nutrition, and an organic reaction continually excited. M. Harel promises to publish cases which will demonstrate the extraordinary efficacy of the liquor of Kœchlin.— *Archives Générales, Nov.* 1829.

56. *Effects of Iodine.*—We quote the following paragraph from the *London Medical and Surgical Journal* for January. Hospital Saint Louis. M. Lugol affirms that iodine increases the appetite in a wonderful manner; in some cases to voracity. It is sometimes diuretic, purgative, and sialagogue. It may induce gastralgia. He has not seen it produce emaciation, nor prove injurious to pulmonary tubercles or hæmoptysis. Externally, it

acts as a stimulant, and when properly modified by admixture with other mild ointments, causes rapid cicatrization of extensive surfaces.—*Lanc. Franc.*

The editor of the London Journal observes, in confirmation of this last statement, that he had lately seen a case of scrofulous ulceration extending from the mastoid process to the clavicle, which was cured in a month with a diluted ointment of iodine. Several of his pupils had seen the case.

57. *Quercia, a peculiar Principle in Oak Bark.*—Mr Scattergood, a graduate of the Philadelphia College of Pharmacy, has discovered a principle in oak bark which he denominates *quercia*, having found it in six different species of the quercus. In the bark of the Spanish oak, *quercus falcata*, it exists in the proportion of 17.5 per cent. It may be obtained by first submitting the bark to the action of ether, alcohol and water, successively, so as to deprive it of all its principles soluble in these liquids, then boiling the residuum in dilute sulphuric acid, and lastly, adding to the dilute solution sufficient carbonate of potassa to saturate the sulphuric acid. A white powder subsides, which is inodorous, tasteless, entirely insoluble in ether, alcohol, or water either hot or cold, and is not perceptibly affected by vegetable acids, such as the acetic, oxalic, tartaric, and citric. It unites with the sulphuric, nitric, and muriatic acids, forming crystalline substances which are insoluble in ether, alcohol, water, or solutions of the neutral salts, but may be dissolved by boiling them in water acidulated by their respective acids. These acid solutions are not affected by oxalate of ammonia, oxalic acid, per-chloride of mercury, tartrate of antimony and potassa, or the ferro-cyanate of potassa. All the alkalies, alkaline carbonates, and magnesia decompose them, precipitating the quercia in the form of a white powder. Alcohol, added to a solution of the sulphate, throws it down as a flocculent precipitate.

The sulphate is not affected by the nitric or muriatic acid; but the nitrate and muriate yield precipitates with sulphuric acid.

The crystals of the sulphate and muriate are acicular; those of the nitrate are lamellated.

The nitrate and muriate, as well as the quercia itself, when thrown upon a red-hot iron, are immediately decomposed, leaving a dark-gray powder. The sulphate was not blackened by the most intense heat which Mr Scattergood was able to apply, but when placed upon a red-hot iron it lost its crystalline form.

The sulphate and muriate may be obtained directly from the bark by boiling it in water acidulated with sulphuric or muriatic acid. The nitrate, however, cannot be obtained in a similar manner, as the nitric acid is decomposed by the bark.

We have extracted the above account from the paper of Mr Scattergood, published in the Journal of the Philadelphia College of Pharmacy, vol. i. p. 97. The substance alluded to, though probably unsusceptible of any useful application in medicine, is yet worthy of notice from the peculiarity of its chemical relations. We hope that it will engage the further attention of the author or some other chemist, till its properties and precise nature are fully illustrated. The permanence of its sulphate in the most intense fire would lead to the conjecture that it is rather a mineral substance than the result of organic action.

## IX. CHEMISTRY.

58. *New Vegetable Alkali, discovered by* PELLETIER. This chemist has addressed a letter to GAY-LUSSAC, in which he states that he has detected a fraudulent admixture of a bark with the cinchona cassaya [calisaya?] a fraud the more necessary to be made public, since the adulterating bark has precisely the same appearance as the true cinchona, and possesses a similar taste. It may be distinguished, however, by touching it with concentrated nitric acid, when it will become of a deep green. The cinchona cassaya, subjected to the same test, becomes reddish-brown.

It is this adulterating bark which contains the new vegetable alkali. To separate it, the spurious bark must be subjected to the same treatment as is pursued for obtaining cinchona from gray Peruvian bark. This circumstance, and its resemblance to cinchonia, induced PELLETIER at first to suppose that the substance obtained was identical with that alkali; but a more careful examination convinced him, that it was a totally different principle. Like cinchonia, it is white, transparent, and crystalline, but it does not volatilize like that vegetable alkali, when, after fusion, the temperature is increased.

The new alkali is soluble in alcohol and ether, but totally insoluble in water. Hence, at first it seems without taste; yet, after a short interval, it creates in the mouth an impression of heat, mixed with bitterness and astringency. Acids, however, develope its taste.

It is in its saline combinations especially that it is readily distinguished from cinchonia. The sulphate of cinchonia crystallizes in rhomboidal prisms; while the sulphate of the new alkali cannot be crystallized from its watery solution. When dissolved in proper proportion in boiling water, the solution, upon refrigeration, assumes the form of a tremulous white jelly, resembling *blanc-mange*. This jelly, evaporated to dryness, has the appearance of horn, but is reconverted into the gelatinous state by the addition of boiling water.

The sulphate of the new substance, when dissolved in boiling alcohol, cannot be made to assume the form of jelly by cooling, but crystallizes in silky needles, which bear considerable resemblance to the sulphate of quinia. These crystals constitute a definite combination between the new substance and sulphuric acid, which is very distinct from the substance itself. Thus the crystals of the alkali are insoluble in water; while the crystals of its sulphate dissolve in hot water and gelatinize in cooling. The alkali is soluble in ether, while the sulphate is not.

The action of nitric acid on the new substance is very characteristic. If the acid is concentrated, an intense green colour is produced; if dilute, a colourless solution is obtained. In the first case, the new principle is altered in its constitution; in the second, it combines with the nitric acid.

M. PELLETIER concludes his letter by promising an analysis of the bark which furnishes the new alkali, and an ultimate analysis of the alkali itself. *Ann. de Chim. et de Phys. Nov.* 1829.

59. *On Iridium and Osmium, by* J. J. BERZELIUS. The residue, left after the action of nitro-muriatic acid on the native grains of platinum, consists of grains, more or less rounded, and with a rough and irregular surface. These grains are not of the same nature with the small brilliant crystalline scales of a silver-white colour, consisting of iridium and osmium, which are found in the ores of platinum from the Uralian mountains; and though they contain osmium, the proportion of this metal is less than that contained in the crystalline grains. The density of the rough grains, after

having been well washed, is 15.78; while that of the crystalline grains is 18.64. Berzelius submitted a quantity of the rough grains to analysis, in order to obtain a sufficient quantity of iridium and osmium to study their properties. The details of his mode of separating them are too long for this journal; but it may be interesting to give the properties of these rare metals, as observed by the great Swedish chemist.

*Iridium.* This metal presents a very exact resemblance to platinum. It is susceptible of polish; but it falls readily into powder under the polisher, if the operation is not done gently. Under the hammer it crumbles; and may be reduced to powder. When a fragment was held, by a platinum forceps, in the flame of an ether lamp, supplied by a current of oxygen gas, its angles were not in the least rounded, though the heat was sufficiently intense to fuse part of the forceps, which fell in drops. The iridium underwent no other change than to have its colour rendered more silver-white. Another fragment, adjusted at the extremity of a clay pipe, and heated until the surrounding clay had become fused and vitrified, presented not the least appearance of fusion, and afterwards was as readily reduced to powder as before. Iridium, therefore, rivals carbon in infusibility. It is true that Children, by means of his gigantic battery, had fused this metal into a globule, but Berzelius asks, was his specimen free from platinum. The density of the globule, notwithstanding its porosity, was 18.68; while the specific gravity of iridium, rendered as pure as possible by Berzelius, was 15.86 in its pulverulent state, and 15.58 when in a porous mass.

Iridium has a strong affinity for carbon. A piece of the metal, immersed in the flame of a spirit lamp, is quickly covered with a carbonaceous vegetation, similar to that which forms on the wick of a tallow candle, which has been suffered to remain unsnuffed. The carburet formed contains nearly 20 per cent. of carbon. It is black, soils the fingers like lamp-black, and feels soft to the touch. It takes fire when gently heated, shines, and continues to burn even after being withdrawn from the fire.

*Osmium.* This metal is in the form of a feebly coherent porous mass, of a bluish-gray colour, and possessing a strong metallic lustre. *Ann. de Chim. et de Phys. Oct.* 1829.

60. *Analysis of Bile, by* Braconnot.—This chemist restricted his researches to picromel, which he considers to be the characteristic portion of bile. His examinations were made of ox-bile, and he arrives at the following conclusions:

1. That the bile is a true soap, as asserted by the ancient physicians.
2. That the picromel of ox-bile contains the following substances:

A peculiar acid resin, which constitutes its greater part,
Margaric acid,
Oleic acid,
An animal matter,
A very bitter matter of an alkaline nature,
A colourless saccharine principle, which becomes purple, violet, and blue by the action of sulphuric acid; and
Lastly, a colouring matter.

*Ann. de Chim. et de Phys. Oct.* 1829.

# Obituary.

Died, near Huntsville, Alabama, on the 12th of December 1829, Dr Samuel Brown, in the 61st year of his age.

As an active member of his profession, ever intent on increasing and amplifying its resources by original suggestions and views—an eminently successful teacher of its theory and practice, and founder of an association whose principles are based on the purest ethics, the deceased had large claims on the respect and esteem of the medical community. The evidences of this feeling have been promptly afforded by the proceedings of the physicians at Huntsville, and of the Kappa Lambda Societies of Lexington and Philadelphia*. The language of even affectionate eulogy cannot, indeed, outrun the real merits of a man, whose frank courtesies and animated kindness to all those with whom he held social intercourse, were but evidences of a philanthropy, the aspirations of which were for the whole human race.

We shall not attempt at this time a delineation of the distinctive traits of Dr Brown's character, nor a detail of the events of his useful and busy life. As will be seen from the subjoined resolutions of the Kappa Lambda Society of Philadelphia, one of its members has been appointed to perform this task; which, when done, shall be imparted to our readers. Already has a biographical sketch, commemorative of the merits of the deceased, been read before the American Philosophical Society, of which he was a member, by his friend Dr R. La Roche.

*Extract from the Minutes of the Kappa Lambda Society of Philadelphia.*

"Dr Bell announced the death of Dr Samuel Brown, founder of the Society, and offered the following resolutions, which were unanimously adopted.

*Resolved,* That this Society has heard with a feeling of deep regret, of the death of its worthy founder, Dr Samuel Brown.

*Resolved,* That a member be appointed by the Society to prepare and deliver before it, a biographical sketch, commemorative of the services and merits of its deceased founder.

*Resolved,* That a committee be deputed by the Society, to wait on James Brown, Esq. brother of the late Dr Samuel Brown, and to convey the expression of its unfeigned sympathy with him and the children of the deceased, under this afflicting dispensation.

Dr Bell was then appointed to prepare and deliver the biographical sketch."

The gentlemen designated as a committee to wait on Mr Brown, were Doctors Otto and Meigs.

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* Of the proceedings of other societies on this subject we are not officially informed.

# Miscellaneous Articles.

## MEDICAL CONVENTION FOR REVISING THE PHARMACOPŒIA.

At a meeting of Delegates to the National Medical Convention for revising the Pharmacopœia of the United States, held at Washington, January 4th, 1830, present,

Lewis Condict, M D. } from the Medical Society of New Jersey.
Isaac Pierson, M.D. }

Geo. B. Wood, M.D. } from the Philadelphia College of Physicians.
Franklin Bache, M.D. }

Jno. L. Morris, M.D. from the Medical Society of Delaware.

Jas. H. Miller, M D. from the Medico-Chirurgical Faculty of Maryland.

N. W. Worthington, M.D. } from the Medical College of Washington.
Thos. Henderson, M.D. }

The convention was organized by the appointment of Lewis Condict, M.D. President, and Thos. Henderson, M. D. Secretary.

A resolution was then adopted, that the Surgeon-general of the army, the senior surgeon of the navy stationed at Washington, and those members of Congress who are practitioners of medicine, be requested to attend the meetings of the convention as members.

In compliance with this invitation, the following gentlemen appeared at subsequent meetings, and took their seats, viz. Jos. Lovell, M.D. Surgeon-general, Bailey Washington, M.D. senior naval surgeon stationed at Washington, and Nathan Gaither, M.D. of Kentucky, G. E. Mitchell, M. D. of Maryland, and Samuel Swan, M. D. of New Jersey, members of Congress.

At this meeting and that of the succeeding day, the following committees were appointed, viz.

A committee, consisting of Drs Wood, Lovell, Worthington, Miller, and Bache to examine and revise the Pharmacopœia, and to submit such revised copy to a future meeting of the convention; and

A committee, consisting of Drs Bache and Miller, to devise a plan for calling the next convention, and to inquire as to the most convenient mode of preserving the minutes of the present, and all future conventions.

On the 6th, Dr Miller, the delegate from Maryland, requested and obtained leave of absence from the convention.

At the meeting of the 7th, the committee on the revision of the Pharmacopœia made the following report:

"The committee appointed on the revision of the Pharmacopœia of the United States, beg leave to report, that they have examined a revised draught submitted to them by the delegates from Pennsylvania, with as much attention as their limited time will permit, and recommend it to the convention as the basis of a new edition of that work. As, however, it contains several important modifications, which require a more particular examination than your committee can possibly give them, they recommend that it be referred to a *committee of revision*, to be ap-

pointed from the different sections of the country; that the chairman of said committee be requested to open a correspondence with the several members, for the purpose of submitting the aforesaid draught to their examination, and of obtaining their remarks and observations thereon; that he be authorized and instructed to call a meeting of said committee at as early a period as practicable, to assemble in the city of Philadelphia, and that any three members shall constitute a quorum for the transaction of business; who, after a careful examination of the several communications that may be submitted to them, shall prepare for the press a revised edition of the Pharmacopœia, and make the necessary arrangements for its publication."

The report was adopted, and in order to carry its recommendations into effect, it was

Resolved, that the committee for the revision and publication of the Pharmacopœia of the United States shall consist of a chairman, and of two members from each of the following cities, viz. Boston, New York, Philadelphia, Baltimore, Washington, Charleston, Lexington, and Cincinnati; whereupon the following gentlemen were appointed.

THOS. T. HEWSON, M.D. Chairman.
JACOB BIGELOW, M.D. } *Boston.*
JOHN W. WEBSTER, M.D. }
ALEXANDER H. STEVENS, M.D. } *New York.*
JOHN WATTS, M.D. }
GEO. B. WOOD, M.D. } *Philadelphia.*
FRANKLIN BACHE, M.D. }
SAMUEL BAKER, M. D. } *Baltimore.*
ELISHA DE BUTTS, M.D. }
THOS. HENDERSON, M.D. } *Washington.*
N. W. WORTHINGTON, M.D. }
JOHN R. TRESCOTT, M.D. } *Charleston.*
JAMES MOULTRIE, M.D. }
W. H. RICHARDSON, M.D. } *Lexington.*
B. W. DUDLEY, M.D. }
JOHN MOREHEAD, M.D. } *Cincinnati.*
J. PIERSON, M.D. }

At the same meeting, the committee upon the subject of future conventions, and the preservation of the records, presented the following report, viz.

"The arrangements which the committee would propose for assembling the convention for 1840, are as follows:

"1. That the president of this convention shall, on the first day of January 1839, issue a notice, requesting the different incorporated state medical societies, the incorporated medical colleges, and the incorporated colleges of physicians and surgeons, throughout the United States, to elect a number of delegates, not exceeding three, to attend a general convention to be held at Washington on the first Monday in January 1840.

"2. That the several incorporated bodies thus addressed, be further requested by the president, to submit the Pharmacopœia to a careful revision, and to transmit the result of their labours through their delegates, or through any other channel, to the next convention.

"That the several medical bodies be further requested to transmit to the president of this convention, the names and residence of their respective delegates as soon as they shall have been appointed; a list of whom shall be published under his authority, for the information of the medical public, in the medical journals and newspapers, in the month of October 1839.

"The committee further report, that the following plan for the preservation of the records of this and future conventions be adopted, viz.

"1. That the secretary of this convention take charge of, and preserve the existing records, until his successor shall be appointed, when it shall be his duty to hand them over to such successor.

"2. That in case of the death, resignation, or inability to act of the secretary, his duties shall devolve upon an assistant secretary now to be appointed.

"3. That it be recommended to future conventions to appoint their secretary or secretaries from members residing in the District of Columbia.

"As it is proper to provide for any contingency which may deprive the present convention of the services of its president before a successor shall be appointed, the following provision is recommended; viz.

"That in case of the death, resignation, or inability to act of the president of this convention, his duties shall devolve on the secretary, and in case both these officers shall be unable to serve, their duties shall devolve on the assistant secretary."

This report was adopted, and Dr WORTHINGTON was chosen assistant secretary.

The convention then adjourned *sine die*.

LEWIS CONDICT, *President.*

THOS. HENDERSON, } *Secretaries.*
N. W. WORTHINGTON, }

*Capitol, Washington, January 7th,* 1830.

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## MORTALITY IN FRANCE IN THE WEALTHIER AND POORER CLASSES.

In the first volume of the Memoirs of the French Royal Academy of Medicine, now lying before us, we meet, among other interesting papers, with one by L. R. VILLERME, which he begins by asking, if there is any difference between the mortality among the poor, and that among those in easy or affluent circumstances? His investigations, based on official statistical returns of the department of the Seine, which, of course, includes Paris, and of the other departments of France, authorize his replying most affirmatively, and showing that the excess of deaths is greatly on the side of the poor. We deem it unnecessary to give all the data introduced by M. VILLERME. The chief inferences and results are sufficient for our present purpose. Some of the arrondissements, or wards of Paris, present such a marked contrast in the wealth and comfort of their inhabitants, as to justify our drawing a conclusion at once, from the difference in the deaths of the two, proportionate to their population. Thus, the first arrondissement, with a population of 50,065 inhabitants, and paying taxes, on property, to the amount of six millions, and upwards, of francs, lost by death, during a term of five years, 4,297. The twelfth arrondissement, the population of which is 69,971, paying in taxes two millions and a half of francs, exhibited, within the same period, a mortality of 8,210. In other words, the mean proportion of those who died at their homes, in the first example, was, annually, one for every 58 inhabitants and a fraction, whilst in the second it was one for every 42 and a fraction. The number sent to the hospitals in the year 1817, was one out of 348 inhabitants of the first arrondissement, and one of 99 for the twelfth. The mean of deaths, from the two arrondissements, at the civil hospitals and infirmaries of Paris, were, in a period of five years, 43 to 67 persons, or about 64 per cent. of those who died at their homes. The entire mortality in the first arrondissement was one for every 41 and a fraction of the inhabitants; and in the twelfth, one for every 24 and a fraction.

Differences, equally striking, were found by M. VILLERME to prevail

between different quarters, or even streets of the same ward. In all, the mortality was greatest in the poorer quarters.

The prisons exhibited a frightful proportion of deaths, greater, always, according to the exposure of their inhabitants, by being ill fed and clothed, and deprived of pure air and all exercise. Among the criminals condemned to the galleys at Brest, the deaths were (taking the mean of four years) one for forty-nine and a half. This mortality is not near so small as it would at first seem to be, since there are no children among these convicts, and those who have passed their seventieth year are withdrawn and placed elsewhere.

The deaths among the tenants of the Parisian prisons, are in the proportion of 1 to 11 and a fraction. Alarming as is this picture, its darker shades are surpassed in the house for the repression of mendicity and vagabondage at St. Denis. Out of a mean annual population of men, women, and children, amounting to 661, the deaths are 194; or 1 to 3, and not quite a half. Children under ten years of age, form but a small number of those confined in this place. A fact worthy of notice, and illustrative of the above, is, that after the lapse of a year's detention, and when they have lost somewhat of their susceptibility to the causes of death, the old men and infirm are sent from the depot at St Denis to Villers-Coterets, where their annual mortality becomes as 1 to 6.

By comparing the mean duration of life of the inhabitants of France generally, with that of those detained in prison, we arrive, according to M. Villermé, at the conclusion, that the imprisonment of any individual for his full term decreed by the law, even in the best prisons, deprives him of the chance of twenty years of his life! Here is a fruitful subject of meditation for enlightened men, who are entrusted either with the framing or carrying into effect of penal laws.

The same proportionate difference is found between the rich departments of France and those that are poor. In the former, the deaths are as 1 to 46 and a fraction; and in the latter, as 1 to rather less than 34. Due allowances are made in this estimate for the different geographical situations of the departments. In some cases, this is so trifling as not to require a notice.

Continuing the parallel, M. Villermé finds, that, of an equal number sick, of the two classes, the mortality will be greater among the poor than among those in easy circumstances.

In the year 1807, the only one in which regular returns of this nature were made to the central board of the administration of the hospitals of Paris, it appears that of 1617 seamstresses, mantua-makers, &c. received into these places, there were 190 deaths, that is to say, one for about eight and a half sick; of 807 journeymen shoe-makers, 108 died, or in the proportion of one to nearly seven and a half; and of 1277 match-makers and sellers, carders, dog-shearers, boot and shoe blacks, street-writers, door-keepers, cobblers, beggars,&c. also in the sick hospitals, 309 died—making a rate of one death to four and a fraction.

On the other hand, out of 1239 workmen jewellers, bakers, butchers, sausage-makers, tallow-chandlers, carpenters, wheelwrights, curriers, cutlers, cabinet-makers, servant-women, shop-boys, lapidaries, sailors, waiters, night-men—who are the least distressed, and suffer least among the working classes, there were 117 deaths, or one in rather more than ten and a half. Of 2519 of the National Guard of Paris, there were only 100 deaths, or one out of something more than twenty-one and a half.

The inferences drawn by M. Villermé from the above statements are—

1. That the mortality in France, and, consequently the mean duration of life is very different among those in easy circumstances, to what it is among the poor and destitute.

2. That this difference is so great, that in some of the wealthy departments, such as Calvados, Orne, and Sarthe, the deaths are only 1 out of 50; whereas, among the inhabitants of the twelfth arrondissement, at Paris, the proportion is 1 to 24 and a fraction.

The deaths at different ages, in the two classes, are as follow:

Within the first year of life, the deaths in the wealthy departments are 20 out of 100; and in the poorer ones, 32 out of 100.

At four years from birth, there are 31 out of 100 dead, in the first class; and 38 in the second.

At ten years, 38 in 100 of the rich, and 44 in 100 of the poor.

At twenty years, the deaths of the former are 42 in 100; and of the latter, 49 in 100, or nearly one-half.

At forty years, 54 in 100 are dead, in the rich departments; and 62 in 100 in the poorer.

At sixty years, there are rather more than 68 in 100 of the former, dead, and 78 in 100 in the latter.

At eighty years, 7 out of 100 have survived in the wealthier classes, and but 4 in the poorer.

At ninety years, of 10,000 inhabitants, born in the rich departments, 82 survive; and in the poorer, but 53 out of the same number.

The above series of interesting details are full of warning and instruction both to governments and individuals. They show how much the health and duration of life, in a community, are dependent on industry, comforts, and wealth, which can only be maintained and enjoyed by the freest scope being given to all the active powers of man, and their suitable direction and display by a good government, equal laws, and moral education. It was with an eye to the uniform testimony of history in this respect, that we asserted in our first number, (p. 3), what, to many of our readers, may have seemed, to border on rhetorical exaggeration, but which is, in fact, strictly true—"That Hygeia herself is ever the companion of true liberty, not less than of orderly habits and pure morals. The periods of the greatest degradation of the human species from misrule and vice, have been also those of the most destructive pestilence; and hence it has been truly said, that general health is inconsistent with extreme servitude."—*Journal of Health, No.* 14.

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## PHILADELPHIA MEDICAL INSTITUTE.

The course of lectures for the summer term in the Medical Institute will begin on the first Monday in April, and be continued, as heretofore, until the first of November. The month of August is a vacation. Ample accommodations are now furnished in the new building in Locust street, erected during the last summer.

N. CHAPMAN, M.D.—On the Practice of Medicine.
WILLIAM E. HORNER, M.D.—On Anatomy.
WILLIAM P. DEWEES, M.D.—On Midwifery.
SAMUEL JACKSON, M.D.—On Materia Medica.
JOHN BELL, M.D.—On the Institutes of Medicine and Medical Jurisprudence.
J. K. MITCHELL, M.D.—On Chemistry.
H. L. HODGE, M.D.—On the Principles of Surgery.
THOMAS HARRIS, M.D.—On Operative Surgery.

## ASSOCIATION FOR MEDICAL INSTRUCTION.

The following physicians have associated themselves for the purpose of

delivering a course of Medical Instruction to their private pupils, and to others engaged in the study of medicine.

JOSEPH PARRISH, M.D.—Practice of Medicine.

FRANKLIN BACHE, M.D.—Chemistry.

J. RHEA BARTON, M.D.—Surgery.

GEO. B. WOOD, M.D.—Materia Medica and the Institutes of Medicine.

SAMUEL G. MORTON, M.D.—Anatomy.

Lectures will be delivered by these gentlemen upon the branches of medical science respectively attached to their names: and the students will have access to a course of lectures by

CHARLES D. MEIGS, M.D. on Obstetrics, and the Diseases of Women and Children.

The lectures will commence in the spring, and will be continued, with a short recess in the summer, till the opening of the winter courses in the University of Pennsylvania.

In the winter season, examinations will be given upon the various branches: and the members of the class will have the benefit of Dr Parrish's lectures on the Principles and Practice of Surgery.

## SCHOOL OF MEDICINE.

The subscribers propose to give a summer course, to commence on the first Monday in April next, and to continue until the last of October. During the winter session of the University of Pennsylvania, the several courses there delivered will be reviewed by examinations.

Principles of Surgery.—W. GIBSON, M.D.

Operative Surgery.—J. RANDOLPH, M.D

Midwifery, &c.—C. D. MEIGS, M.D.

Practice of Medicine.—B. H. COATES, M.D.

Institutes of Medicine.—R. LA ROCHE, M.D.

Materia Medica, Medical Jurisprudence and Botany.—R. E. GRIFFITH, M.D.

Anatomy.—J. P. HOPKINSON, M.D.

The Class will have the privilege of attending the Lectures on Chemistry, by Dr BACHE, Professor of Chemistry in the Franklin Institute.

## COURSE OF MEDICAL INSTRUCTION FOR THE YEAR 1830,

By Richard Harlan, M.D., one of the Surgeons of the Philadelphia Alms-House Infirmary, &c. &c.

I.—Private Examinations in the different branches of Medicine and Surgery, preparatory to the examinations for a Degree.

II.—A Demonstrative Course on Comparative Anatomy: to commence in February, and terminate in March.

III.—During the remaining seasons, a course of Instruction will be continued in Surgery and Demonstrative Anatomy, to as great extent as the weather will admit. Complete sets of Bones will be displayed for the inspection of the class. Being in possession of complete and copious notes of Dr Parrish's Surgical Lectures to his private class, his practice, together with that of the Professor of Surgery, will be compared with the practice of modern European Surgeons.

*Terms.*—For the Examinations, and Lectures on Comparative Anatomy, $10 00 each. For the Summer Course of Anatomy and Surgery, or for those who become pupils for one year, $25 00: they will be entitled to a ticket to attend the Practice of the Alms-House. $40 00 will include the whole course of instruction.

R. HARLAN, M.D.

South-West corner of Ninth and George Streets.

R. M. Huston, M.D. will deliver a course of lectures on the *Theory* and *Practice* of *Obstetrics*, to commence early in April ensuing, at the lecture room, Seventh street, below Arch.

The lectures of D. Francis Condie, M.D., on *Pathology*, and the *Practice of Medicine*, with particular reference to the *Diseases of Children* will be delivered at the same place as the above; to commence in April.

## PUBLIC VACCINE INSTITUTION OF PHILADELPHIA.

The Select and Common Councils of the City of Philadelphia, having so altered the ordinance providing for the gratuitous vaccination of the poor of said city, as to make it the duty of four individuals; and the subscribers having been appointed to the performance of the above duties, would respectfully inform the Medical Profession throughout the United States, that it is their intention to keep a constant supply of genuine fresh vaccine virus, which they will supply on receiving a small remuneration for the extra trouble it will occasion. Applications, (post paid) enclosing three dollars, addressed to either of the subscribers, will be promptly attended to.

DAVID C. SKERRETT, M.D.
*No. 155, South Tenth street.*

GEO. SPACKMAN, M.D.
*Twelfth street, one door below Race.*

JOSEPH PANCOAST, M.D.
*No. 103, Walnut street.*

AMOS PENNEBAKER,
*No. 91, North Fourth street.*

## UNIVERSITY OF PENNSYLVANIA, MARCH 24th, 1830.

At a Medical Commencement, held this day, in the Musical Fund Hall, Locust street, the Degree of Doctor of Medicine was conferred upon the following gentlemen:

Samuel Abernethy, Penns. *Traumatic Hemorrhage;* Alfred Anderson, S.C. *Neuralgia;* Abram Maury Allen, Va. *Injuries of the Head;* John W. Anderson, Md. *Dropsy;* Hugh Horner Abernethy, Penns. *Rupture of the Uterus;* Richard D. Arnold, Geo. *Asthenia;* Levin H. Adams, Del. *Catarrh.*

Thomas M. Boyle, Va. *Amenorrhœa;* Randolph Brearley, N.J. *Dysentery;* Daniel J. Bruner, Penns. *Asthma;* Robert P. Brooke, Va. *Typhus Fever;* William G. Britton, Va. *Peritonitis;* Bennet A. Bouton, Penns. *Croup;* Thomas D. Brown, Va. *Pneumonia Biliosa;* John Foulk Bullick, Penns. *Stricture of Urethra;* Patrick H. W. Bronaugh, Va. *Paralysis;* Armistead F. Brackin, N.C. *Cholera Infantum;* Thomas Barbour, Va. *Acute Dysentery;* Joseph Baldwin, Penns. *Hæmoptysis;* Charles H. Black, Del. *Bronchitis Acuta;* Horace M. Belt, Va. *Venesection in Fever.*

Cyprian Cross, N.C. *Pleuritis;* Jonathan Clark, Penns. *Variola Vaccina;* James S. Carraway, Missis. *Puerperal Convulsions;* Jesse Carter, N. C. *Mania a Potu;* Felix G. Callaway. Geo. *Inverted Toe Nail;* Augustus H. Cenas, Louis. *Colitis;* William M. Cross, Va. *Regimen;* William Cunningham, Va. *Acute Dysentery;* John F. Charles, Penns. *Amenorrhœa;* Joseph Carson, Penns. *Animal Temperature.*

Robert M. Dunbar, Va. *Variola;* Alex. Franklin Dulin, Va. *Peritonitis Puerperalis;* William R. Derickson, Del. *Small Pox.*

Benjamin Rush Erwin, N.J. *Secale Cornutum;* John R. Edmonds, Va. *Acute Hepatitis.*

Joseph W. Farnum, R.I. *Verminous Affections;* George Fitzgerald, Va. *Pleuritis Acuta;* Henry M. Fuller, S.C. *Arthritis;* George F. Fort, N.J. *Hydro-arachnitis Infantum;* James Burette Ford, Va. *Cholera Infantum;* James F. Fauntleroy, Va. *Hydrocephalus.*

Richard Garland, Va. *Spontaneous Hemorrhage;* Thomas H. Green, Penns. *Hereditary Diseases;* William W. Gerhard, Penns. *Endermic Applications;* Selah Gulick, N.J. *Miasmata;* Robert M. Garrett, Va. *Capillary*

*Vessels;* Michael F. Groves, Penns. *Hernia;* William A. Gray, Va. *Dysentery;* Lewis M. George, Va. *Lithotomy;* John R. Garnett, Va. *Cynanche Trachealis;* Ezra Gildersleeve, Penns. *Secondary Causes of Action in the Human System;* Lemuel Gustine, Penns. *Typhus Fever.*

Robert H. Harrison, Va. *Active Hæmoptysis;* John P. Harrison, Va. *Bilious Fever;* Samuel R. Haywood, N.C. *Conduct of the Practitioner during Labour;* Thomas Hun, N.Y. *Suspended Respiration;* Edward B. Harris, Alaba. *Menstruation;* Alexander Hall, N.C. *Structure and Functions of the Mucous Membranes;* Edward Hallowell, Penns, *Pathology of Local Inflammation.*

Geo. Jacob Janeway, Penns. *Peritonitis;* William Jones, Penns. *Hæmoptysis;* Robert H. Jones, Penns, *Reubeola;* Robert B. James, S.C. *Enteritis;* William Keith, Penns. *Intermittent Fever;* William H. Klapp, Penns. *Cholera Infantum;* Marshall M. Keith, Va. *Trachitis.*

Ezekiel Lamar, Geo. *Bilious Remittent of Southern States;* Hartwell H. Lewis, Va. *Acute Peritonitis;* Thomas Lewis, Va. *Trachitis;* James H. Lufborough, D.C. *Gastritis;* Thomas Lee, N.J. *Datura Stramonium;* John S. Landes, Penns. *Acute Gastritis;* Evan G. Lester, Penns. *Bilious Colic;* James B. Livingston, N.Y. *Cynanche Trachealis.*

James D. Mead, N.Y. *Dysentery;* Frederick Martin, Penns. *Diaphoretics;* Thomas Mathias, Penns. *Rupture of Uterus;* Charles H. Martin, Penns. *Epilepsy;* Francis Mallory, Va. *Causes of Yellow Fever;* Alexander F. M'Kinney, Tenn. *Origin and Progress of Medicine.*

George Norris, Penns. *Varioloid and Vaccine Diseases;* Thomas H. Nelson, Va. *Concussion of the Brain.*

Josiah H. Phelps, Vermont, *Croup;* Walter R. Puckett, Va. *Cholera Infantum;* Edmund P. Pollard, Md. *Hæmatemesis;* James R. S. Purnell, Md. *Inflammatory Dysentery;* James T. Persons, Geo. *Gastritis Acuta;* Thomas Payne, Va. *Cynanche Trachealis;* Chillian Palmer, N.C. *Autumnal Fever;* William J. Pendleton, Va. *Ophthalmia;* Jeffrey D. Palmer, Va. *Diet in Disease and Convalescence.*

David John Rogers, Penns. *Epilepsy;* Edward Florens Rivinus, Penns. *Operation of Physical Causes upon the Constitution, Health, and Diseases of Man;* Joseph Rittenhouse, Penns. *Cholera Infantum;* Robert C. Randolph, Va. *Hepatitis;* Lewis Roper, Penns. *Physiology and Pathology of the Teeth;* Zachariah Reed, N.J. *Gonorrhœa Virulenta;* James H. Ragan, Geo. *Syphilis;* Nathaniel M. Roan, N.C. *Idiopathic Hydrothorax;* Wm. S. W. Ruschenberger, U. S. Navy, *Diseases of the Liver.*

George F. H. Strawbridge, Penns. *A Peculiar Spasmodic Affection;* Wilson C. Swann, D.C. *Ol. Teberinth;* Albert H. Shepherd, Geo. *Gastro-Enteritis;* Daniel B. Searcy, Geo. *Bilious Fever;* William Selden, Va. *Bilious Fever;* Charles P. Street, Va. *Endermic Applications;* James H. Smith, Penns. *Rubeola;* Thomas Stewardson, Jr. Penns. *Digestion;* Albert Snead, Va. *Erysipelas Phlegmonoides;* Bolling Winslow Stark, Va. *Puerperal Fever.*

Joseph W. Taylor, Penns. *Opium;* Edward T. Taylor, Va. *Sanguineous Depletion;* William B. Todd, Va. *Bilious Remittent Fever;* John F. Townsend, N.Y. *Dyspepsia.*

John Van Buskirk, Jr. Penns. *Dysentery.*

John W. Waller, Va. *Strictures of Urethra;* John James Wharton, Va. *Erysipelas;* Thomas Wilson, Penns. *Hydrops Abdominis;* George White, N.J. *Bilious Remittent Fever;* Conway D. Whittle, Va. *Acute Hepatitis;* Thomas Edward Wilson, Ky. *Opium;* James C. Workman, Penns. *Dysentery:* George Wood, Va. *Acute Peritonitis.*

Thomas J. Yarrow, N.J. *Ictorus.*—Aggregate 125.

W. E. HORNER, M.D. *Dean.*

## PHILADELPHIA MEDICAL SOCIETY.

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The following lectures have been read before the Society during the summer and winter sessions :—

*Dr Bell.* On the Diseases of Artisans.
*Dr B. H. Coates.* The Report of the Committee on the Use of Ardent Spirits.
*Dr Togno.* A Biographical Sketch of the Life and Labours of Béclard.
*Dr B. H. Coates.* Additional Rep. of Com. on the Use of Ardent Spirits.
*Dr Bell.* On the Diseases of the Heart.
*Dr B. H. Coates.* On the Physical Means of investigating certain Diseases of the Lungs.
*Dr Condie.* On Otitis.
*Dr Hopkinson.* On Lithontripty.
*Dr Hays.* On Inflammation of the Eye.
*Dr Hodge.* On Sedation.
*Dr Gorman, of Geo.* On the Philosophy or the Nature and Relations of Life.
*Dr Rousseau.* On the Influence of Sleep upon Health.
*Dr Bell.* On the Causes of Disease from Professional Studies.
*Dr Brewster.* On the Tourniquet as a Medical Agent.
*Dr Meigs.* On the Decidua.

The following gentlemen were elected members during the above period:

*Honorary Members.*

Thomas H. Wright, M.D. Baltimore ; Richard T. Barret, M.D. Kentucky ; William Sidney Smith, Natchez.

*Junior Members.*

*Pennsylvania.*—Hugh H. Abernethy ; Dr G. Mœhring ; Frederick Martin ; Chas. H. Martin ; Chas. Hathwell ; N. C. Barrabino ; Alfred Elwyn, Benjamin Malone ; Richard J. Harvey ; Dr Edward Staples ; David Barber ; Thos. T. Betton ; Jos. W. Paul ; Chas. H. Humphreys ; William N. Duane. *New York.*—Thomas Hun ; Dr Joab W. Hunt. *Virginia.*—Robert P. Brooke ; Thos. D. Mutter ; Lewis D. Minor ; John F. Fauntleroy ; William Baird. *Maryland.*—James R. S. Purnell. *North Carolina.*—Joseph F. Cheairs. *South Carolina.*—Samuel R. Haywood ; Isaac Lyons. *Georgia.*—Richard Moore ; F. G. Callaway. *Mississippi.*—Thomas Percy. *Alabama.*—Edward B. Harris. W. R. Ruschenberger, *U. S. Navy.*

From the Records of the Society,

ROBERT M. DUNBAR, *Rec. Sec.*

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Dr Drake, of Cincinnati, has been appointed Professor of the Theory and Practice of Physic in the Jefferson Medical College.

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